JAN 17 1983
Praschak
file

ALUMINUM COMPANY OF AMERICA
ALCOA BUILDING
PITTSBURGH, PENNSYLVANIA 15219

LEGAL DEPARTMENT

ALCOA

1983 January 14

Mr. Andrew C. Praschak
United States Environmental Protection Agency
General Enforcement Branch
Region II
26 Federal Plaza
New York, NY 10278

Re: Request for Information from Alcoa facility in Massena, Massena, New York

Dear Mr. Praschak:

Pursuant to your conversation with Steve Morgan on January 7, Alcoa is responding to those questions in the Request for Information which refer only to waste oils or PCB's. Also pursuant to your conversation with Mr. Morgan, we are reviewing documents from our Massena Operations and enclose documents which our investigation has produced to date along with our responses to your Requests based on these documents. We are endeavoring to complete our review as soon as possible and will supplement our responses as is necessary upon completion of our review of the potentially relevant documents. We will supply your with a signed Certification of Answers when we complete our review.

Each response to your questions is a summary of the relevant information contained in the enclosed documents. Many of the documents are responsive to more than one question. Appended to our responses is a list identifying all documents submitted.

Due to the ongoing nature of our review and probable lack of documentation for certain areas or years many of our responses suggest estimates of numbers and corporate practices based on existing documents that try to reconstruct the 1950 to 1979 period.

Request 1:

Describe in detail all processes of Alcoa-Massena which generated waste oils during the years 1950 to 1979.

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a. Include the principal components as well as the source and volume of these waste oils generated, per year.

b. Include diagrams, if necessary.

Response:

Alcoa's Massena Operations consists of both smelting facilities and a fabricating operation. Potlines reduce alumina to produce primary aluminum and aluminum ingot. Aluminum wire, rod and bar, and conductor products are produced at the fabricating plant.

There are three groups of waste oils generated at the Massena Operations: waste lubricating oil; waste process oil; and waste insulating oil. The insulating oil is treated elsewhere in our response.

The records indicate that historically the following substances are used as lubricants or as additives to lubricants:

Mineral Oil
Polybutene
Lard Oil
Vegetable Oil
Butyl Stearate
Graphite
Oleic Acid
Cetyl Alcohol
Petroleum Sulfonate (Emulsifier)
Amines (Corrosion Inhibitor)
Metallic Salts of Fatty Acids (Corrosion Inhibitor)
Kerosene
Varnolene
Grease

The sources of these oils are automotive shops, machine maintenance shops and production equipment. An approximate breakdown of the source of these oils, based on recent information, is:

Motor oil from automotive shops	15%
Miscellaneous Lubricating Oil (Mineral Oil)	15%
Drawing Oil (Polybutene)	30%
Varnolene (Petroleum Distillate)	40%

Estimates of the volume of waste lubricating oil generated per year ranges from 100,000 to 150,000 gallons per year. Amounts of oil generated in any one year would vary based on a number of factors including production levels.

The sources of process oils are the rolling mills and saws in the fabricating operations. The annual volume of this type waste oil is estimated to be 300,000 gallons. This volume would also vary from year to year.
Responsive Documents: Number(s) 1, 2, 3, 29, 30, 31.

Request 2:

No answer required per agreement.

Request 3:

Specify the dimensions of all capacitors present at the Alcoa-Massena plant during the years 1950 to 1979 and the amount of free oil contained in each.

a. Be specific and include diagrams, if necessary.

b. Specify the total number of these capacitors that contained polychlorinated biphenyls.

Response:

A 1982 inventory of capacitors at the Massena Operations revealed that there are 1,664 capacitors in service. Earlier counts of capacitors at the plant included capacitors with less than three pounds of fluid. An estimate of the total amount of insulating fluid in capacitors containing at least three pounds of fluid would be 16,407.7 kilograms. The total amount of oil in the capacitors in 1982 includes both oil containing polychlorinated biphenyls and oil not containing polychlorinated biphenyls. During the period 1950 to 1979, however, all capacitors would have contained oil with polychlorinated biphenyls. The 1982 survey of capacitors appears to be representative of Massena's average number of capacitors in service.
Responsive Documents: Number(s) 32, 33, 34, 35

Request 4:

Information contained in EPA files indicates that in July, 1977, ALCOA-Massena was holding six or more spent capacitors for off-site removal. Please identify the volume and composition of the contents, including the dielectric substance, of these capacitors.

a. Indicate the date on which each of these capacitors and their original contents were removed off-site.

b. Indicate whether the original contents of these capacitors were drained before off-site removal.

c. If polychlorinated biphenyls were present in the original contents of these capacitors, please state the amount present in each.

d. Indicate the final destination of these capacitors as well as their original contents, including the dielectric substance.

e. Indicate the name and address of each transporter used to remove these capacitors as well as their original contents off-site.

f. Provide a list identifying all records and documents pertaining to the off-site shipment of these capacitors and their contents. If no such documentation is available, specifically state so and explain why.

Response:

Our review of the files has not identified the information referred to in your Requests 4 and 5. At present, capacitors are stored on-site in sealed drums. The only record of off-site disposal of capacitors we have found documents the disposal of 36 capacitors by Cecos in May, 1980.
Responsive documents: Number(s) 1, 2, 3, 29, 30, 31, 32, 33, 34, 35.

Request 5:

List the volume and composition of the original contents of all other capacitors, including dielectric substances, which were removed off-site during the years 1950-1979.

a. Indicate the date on which each of these capacitors and their original contents were removed off-site.

b. Indicate whether the original contents of these capacitors were drained before off-site removal.

c. Indicate the number of capacitors that originally contained polychlorinated biphenyls and whether or not the contents were drained before removal.

d. Indicate the final destination of these capacitors and their original contents, including the dielectric substance , of each.

e. Indicate the name and address of any transporter who may have been used to remove the capacitors and their original contents, including the dielectric substance, off-site.

f. Information supplied by Alcoa-Massena representatives, contained in EPA files, indicates that approximately two capacitors were discarded by Alcoa-Massena per year. If the total number of capacitors which you response indicates were shipped off-site by Alcoa-Massena during this period does not total approximately two per year, please explain the discrepancy.

g. Provide a list identifying all records and documents pertaining to the off-site shipment of these capacitors and their original contents. If no such documentation is available, please explain why.

Response:

See answer to Request 4.

Request 6:

Provide a list of the source, volume and composition of any materials removed off-site between the years 1950 to 1979 which may have contained polychlorinated biphenyls, which have not been addressed in your response to any other question contained in this letter.

a. Provide a list identifying all records and documents pertaining to the off-site shipment of these materials. If no such documentation exists, please explain why.

b. Indicate the final destination of these materials and the dates of removal.

c. Provide the names and addresses of any transporters who may have been used to remove these materials off-site and the respective source, volume and composition of the materials they removed.

Response:

Our review of the documents has indicated three types of materials which may have contained polychlorinated biphenyls.

Hydraulic fluids purchased for use in extrusion presses at the fabricating plant from 1950 to 1970 contained polychlorinated biphenyls. From 1970 to date, non-PCB fluid has been purchased. Our review of the documents indicates that hydraulic fluid containing PCB's was shipped off-site for reclamation and returned to Massena Operations for reuse. In 1979, PCB-contaminated fluid was drained from the presses and the presses were flushed. The fluid removed from the presses is stored on-site in sealed and marked barrels.

Transformer fluid containing polychlorinated biphenyls also was used at the Massena plant. A survey indicating the status of these transformers is enclosed. Maintenance records also indicate that an on-site reclamation project for transformer oil was actively pursued from at least 1959 to 1969. In 1982, some contaminated transformer fluid was drained and the fluid is stored on-site. Other transformers were scrapped at this time. The

fluid from the scrapped transformers was drained and stored on-site. Certain transformers are also stored on-site.

The Massena facility also has in-service circuit breakers of various sizes which contain insulating oil containing polychlorinated biphenyls. Maintenance records indicate that the oil was routinely filtered and presumably returned to the circuit breakers.
Responsive documents: Number(s) 36 to 48.

Request 7:

Information in EPA files indicates Alcoa-Massena's past use of an on-site lagoon for the storage of waste oils which were later removed off-site by Peirce Oil Company (also known as Pierce Oil Company), Moira, New York.

a. Specifically identify the source of these waste oils, the period of accumulation, the composition and the total volume removed by Peirce Oil Company.

b. Supply the dates of removal of this waste oil by Peirce Oil Company.

c. Identify the final destination of these waste oils removed by Peirce Oil Company.

d. Provide a list identifying all records and documents pertaining to the removal of these waste oils by Peirce Oil Company. If no such documentation is available, please explain why.

Response:

During the period from 1962 to 1979, oil was placed in oil lagoons on-site. The volume and composition of the oil is provided in response to Request 1. The oil in the lagoons was disposed of by burning in the coal-fired boilers at the plant, evaporating and removal by an oil reclamation company. The coal fired burners were replaced around 1972, and no oil has been burned in the new boilers.

The documents indicate that some of the oil was sprayed on roads on-site and that Peirce intended to spray some of the oil on secondary roads. There is no documentation of the actual destination of the oil removed from the site by Peirce.

Enclosed are purchase orders and supporting documentation regarding the off-site removal of oil from Massena by Peirce. In addition, there are, enclosed, reports and notes on the burning and/or disposal of the waste oils on-site. We have also enclosed

the gate log entries from periods during 1975, 1976 and 1977 which indicate the presence, on-site, of an oil reclamation company used by Alcoa. The logbooks for other years are stil being reviewed. Responsive documents: Number(s) 1-31.

Request 8:

Identify the source, composition and volume of any other waste materials remove by Peirce Oil Company during the years 1950 to 1979, not previously requested by this leter.

a. Provide the dates of removal of these materials.

b. Provide the final destination of each removal by Peirce Oil Company.

c. Provide a list of identifying all records and documents pertaining to the removal off-site of these waste materials by Peirce Oil Company. If no such documentation exists, please explain why.

Response:

The documents that we have reviewed do not indicate that Peirce Oil Company removed any wastes other than the waste oils discussed in response to Request 7.

Request 9:

No answer required per our agreement.

Request 10:

Your correspondence to EPA dated September 13, 1982 indicates that Alcoa-Massena employed Parent Oil Company, Moira, New York for off-site removal of waste oil.

a. Provide the dates of removal of waste oil by Parent Oil Company.

b. For each date supplied, provide the respective source, volume and composition of the materials removed.

c. Provide the final destination of all waste loads removed by Parent Oil.

d. Did Parent Oil remove any materials containing polychlorinated biphenyls?

Response:

Purchase orders and supporting documents regarding our relationship with Parent Oil Company are enclosed. Our review of the documents does not indicate the final destination of waste oil removed by Parent Oil nor does it indicate that the material was tested for polychlorinated biphenyls prior to removal.
Responsive documents: Number(s) 26 and 27.

Request 11:

Provide a list identifying all records and documents pertaining to the off-site removal of waste oils from Alcoa-Massena by Parent Oil Company. If such records do not exist, please explain why.

Response:

A list of such documents reviewed to date along with a copy of these documents is enclosed.
Responsive documents: Number(s) 26 and 27.

Request 12:

List by volume and constituent, the amount of any other waste oils removed off-site or disposed of on-site per year, during the years 1950 to 1979, not previously addressed by your answers to other questions contained in this letter.

a. For waste oils removed off-site, list the final destination of each load and the total volume of each.

b. Provide the names and addresses of each transporter of these loads.

Response:

In documents that have been reviewed to date, the first mention of an unnamed oil reclamation company removing oil from the Massena facility occurred in 1963. This oil reclamation company, used during 1963 and 1964, apparently went out of business. No mention of Peirce Oil Company has been found in documents earlier than 1969.

All documents reviewed to date regarding the off-site removal of waste oil from Alcoa's Massena facility is enclosed with this response.
Responsive documents: Number(s) 9, 10, 11, 12, 13, 14, 15, 16.

Request 13:

No answer required per our agreement.

Request 14:

No answer required per our agreement.

Sincerely yours,

Lawrence V. Castner
Attorney

LVC:pd

Attachments

List of Documents Enclosed

#1 1977 Massena Operations Liquid and Solid Waste Survey (one written (a), one typed (b))

#2 1978 Application for Permit to Operate Solid Waste Facility

#3 1968 Preliminary Solid Waste Survey - Massena Operations

#4 1971 Scrap Metals and Reclamation - Sales and Expenses

#5 1971 Alcoa Specifications for Insulating Oils

#6 1962 Report on Disposal of Soluble Oil
a) 1962 report
b) 1962 preliminary report
c) 1962 notes on 1962 disposal

#7 Undated Report on Evaporation from Oil Lagoon in 1959

#8 Undated reports on the proposal to burn Soluble Waste Oil, lettered (a), (b) and (c)

#9 1961 Reports on disposal of Soluble Oil, lettered (a), (b) and (c)

#10 1963 Report on Disposal of Soluble Oil

#11 1964 Report on Disposal of Soluble Oil

#12 1965 Report on Disposal of Soluble Oil

#13 1966 Report on Disposal of Soluble Oil

#14 1967 Report on Disposal of Soluble Oil

#15 1968 Report on Disposal of Soluble Oil

#16 1969 Report on Disposal of Soluble Oil

#17 1970 notes on Soluble Oil Disposal

#18 Undated notes on oil lagoon, lettered (a), (b) and (c)

#19 1974 notes on Soluble Oil disposal and Hydraulic Oil

#20 1969 correspondence re: Disposal of Soluble Oil

#21 Purchase order and Supporting documents for Pierce Oil, 8/1/74 to 7/31/75

#22 Purchase order and Supporting documents for Pierce Oil, 5/30/75 to 9/30/75

#23 Purchase order and Supporting documents for Pierce Oil, 8/1/75 to 6/30/75

#24 Purchase order and Supporting documents for Pierce Oil, 8/1/76 to 7/31/77

#25 1977 Bid for Soluble Oil Disposal

#26 Purchase order and Supporting documents for Parent Oil, 4/1/78 to 3/31/79

#27 Purchase order and Supporting documents for Parent Oil, 7/31/79 to 12/31/79

#28 Log book entries, main gate, Massena Operations, various dates 1975-1977

#29 1972 Massena Operations Industrial Liquid and Solid Waste Survey

#30 Alcoa Massena Operations Descrption of Solid Waste Disposal Facility

#31 Report on Waste lubricating oils, 1981

#32 1982 survey of capacitors in-service lettered (a) and (b)

#33 Hazardous waste manifest from Cecos for removal of 36 capacitors with accompanying inventory of capacitors removed

#34 PCB records
a) 1977
b) 1978

#35 Undated notes on capacitors

#36 Purchase order for reclamation of Phosphate Ester Fluid and supporting documents for Wall-Over Company, 7/31/78

#37 1978 report on hydraulic fluid in extrusion presses

#38 1978 report on PCB's in hydraulic fluids

#39 1982 Transformer Survey

#40 1979 Transformer Survey

#41 1951 Study of Transformer Fluid Reclamation

#42 Undated notes on Transformer Fluid Reclamation Project

#43 1960 studies on Transformer Fluid Reclamation Project

#44 1982 Inventory of Scrapped Transformers

#45 Plant History - Rectifier Station

a)	2/60	h)	7/59
b)	1/60	i)	6/59
c)	12/59	j)	5/59
d)	11/59	k)	4/59
e)	10/59	l)	3/59
f)	9/59	m)	2/59
j)	8/59	n)	1/59

#46 Transformer Insulating Oil- Test and Maintenance Records

#47 1982 Circuit Breaker Survey

#48 Circuit Breaker Insulating Oil - Test and Maintenance Records

ALUMINUM COMPANY OF AMERICA
ALCOA BUILDING
PITTSBURGH, PENNSYLVANIA 15219

LEGAL DEPARTMENT

1983 February 18

Ms. Carole Petersen
United States Environmental Protection Agency
General Enforcement Branch
Region II
26 Federal Plaza
New York, NY 10278

Re: Request for Information from Alcoa facility in Massena, New York

Dear Ms. Petersen:

Mr. Andrew Praschak asked us to direct correpondence concerning your Request for Information about our Massena facility to you while he is out of the office. As agreed in the January 10, 1983 conversation with Mr. Praschak, representatives of Alcoa will be in New York on March 8, 1983 to meet with representatives of EPA. Alcoa representatives at the meeting will be: Philip Woodward, Massena Operations Environmental Control Superintendent; Roy Carwile of the Pittsburgh Environmental Control Department; and Barbara Gardner and myself of the Legal Department. We plan to arrive in New York at approximately 9:30 a.m. on March 8; therefore, we should be at your offices between 10:00 and 10:30 a.m.

Prior to the meeting, we will send to you the supplement to our January 14, 1983 response to your Request for Information. This information should be sent during in the week of February 21, 1983 and will complete our document review.

We look forward to a productive meeting on March 8. If you have any questions I can be reached at (412) 553-4784.

Sincerely

Lawrence V. Castner
Attorney

LVC:pd

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ALUMINUM COMPANY OF AMERICA
ALCOA BUILDING
PITTSBURGH, PENNSYLVANIA 15219

LEGAL DEPARTMENT

ALCOA

1983 February 18

Ms. Carole Petersen
United States Environmental Protection Agency
General Enforcement Branch
Region II
26 Federal Plaza
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Sincerely

Lawrence V. Castner
Attorney

LVC:pd

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file

ALUMINUM COMPANY OF AMERICA
ALCOA BUILDING
PITTSBURGH, PENNSYLVANIA 15219

LEGAL DEPARTMENT

1982 November 22

Mr. Andrew L. Praschak
General Enforcement Branch
United States Environmental Protection Agency
Region II
26 Federal Plaza
New York, New York 10278

Re: Request for Information Under 42 U.S.C. § 9604(e)(1) and 42 U.S.C. § 6927

Dear Mr. Praschak:

Please reference your letter dated November 16, 1982 transmitting the above-captioned Request for Information ("RFI"), which I received on November 18, 1982.

As we discussed by telephone this morning, ALCOA will proceed in an expeditious manner to respond to the RFI; however, the impending Holidays will most probably impede our ability to meet your fourteen-day deadline. As agreed by you this morning, ALCOA will be given a thirty-day extension of this deadline in order to be able to fully respond to the RFI.

ALCOA cannot be certain that such allotted time frame will allow us to search all relevant Company files. However, we will work promptly to provide you with our data, and I will contact you prior to the close of the 1982 calendar year if we cannot meet the extended deadline.

Thank you for your approval of this request.

Sincerely,

Steven M. Morgan
Attorney

SMM:pd

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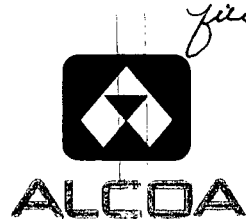
SEP 17 1982
Praschak
file

ALUMINUM COMPANY OF AMERICA

ALCOA BUILDING · PITTSBURGH, PENNSYLVANIA 15219

LEGAL DEPARTMENT



CERTIFIED MAIL - RETURN RECEIPT REQUESTED

1982 September 13

Mr. Andrew C. Praschak
United States Environmental Protection Agency
Region II
26 Federal Plaza
New York, New York 10278

Re: York Oil Company, Moira, New York

Dear Mr. Praschak:

We are writing in reply to your letter of August 23, 1982. To the best of our knowledge, based on an investigation of records and files, we have never had any dealings with a York Oil Company, Moira, New York. We have had dealings with other firms in Moira, most recently, Parent Oil Company, P.O. Box 51, Moira, New York. The latter transactions involved the sale of waste oil to Parent who, we believe, purchased the same for reclamation. Previously, some waste oil was given to other firms who we believe used the oil for road oiling and not reclamation or disposal. We have no analysis of the waste oils in question. However, the present waste oils being generated, which are from the same source, do not contain any "hazardous waste" as defined in your letter of August 23rd.

If you would like to discuss this matter further, I can be reached at (412) 553-4554.

Very truly yours,

Steve M. Morgan...

Steven M. Morgan
Attorney

SMM:pd

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SEP 17 1982
SE, Praschak file

ALUMINUM COMPANY OF AMERICA

ALCOA BUILDING · PITTSBURGH, PENNSYLVANIA 15219

LEGAL DEPARTMENT

ALCOA

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

1982 September 13

Mr. Andrew C. Praschak
United States Environmental Protection Agency
Region II
26 Federal Plaza
New York, New York 10278

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Very truly yours,

Steve M. Morgan

Steven M. Morgan
Attorney

SMM:pd

APR 28 1983
Praschak
York Oil
(104(a) Response)

ALUMINUM COMPANY OF AMERICA
ALCOA BUILDING
PITTSBURGH, PENNSYLVANIA 15219

LEGAL DEPARTMENT

1983 April 25

Mr. Andrew L. Praschak, Attorney
General Enforcement Branch
Office of Regional Counsel
U. S. Environmental Protection Agency
Region II
26 Federal Plaza
New York, NY 10278

Re: York Oil Site, Moira, NY

Dear Mr. Praschak:

This letter is in response to Conrad Simon's letter of April 06, 1983. In that letter, Mr. Simon requested that Aluminum Company of America ("Alcoa") notify you of the nature and extent of the corrective measures Alcoa may be willing to undertake at the York Oil Site ("the Site") in Moira, New York.

As you know, Alcoa believes that a decision on the Company's liability for conditions at the York Oil Site is premature at this time since the Agency is in the process of determining whether any other companies may have done business with the owners or operators of this site. As we indicated in our meeting with you on March 8, 1983, we would be happy to meet with the Agency and the other potentially responsible parties when you have identified them and when you have a better idea of the scope of the remedial investigation and feasibility study you intend to undertake at the site.

Please send all future correspondence to my attention. My telephone number is (412) 553-4206.

Sincerely yours,

Barbara J. Gardner
General Attorney

BJG/dmt

cc: Norman Nosenchuck, Director
Division of Solid Waste
New York State Department of Environmental Conservation

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BARBARA J. GARDNER
Aluminum Company of America
1501 Alcoa Building
Pittsburgh, PA 15219

PITTSBURGH PA APR 26 '83

US POSTAGE .405

REGISTERED MAIL
RETURN RECEIPT REQUESTED

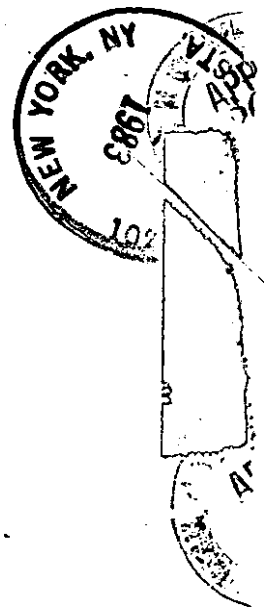
Mr. Andrew L. Praschak, Attorney
General Enforcement Branch
Office of Regional Counsel
U.S. Environmental Protection Agency
Region II
26 Federal Plaza
New York, NY 10278

ALCOA

REGISTERED MAIL
R 033 696 708

RETURN RECEIPT REQUESTED

6B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ALUMINUM COMPANY OF AMERICA
ALCOA BUILDING
PITTSBURGH, PENNSYLVANIA 15219

LEGAL DEPARTMENT

JUN 29 1983
Lpractak
York Oil

ALCOA

1983 June 24

VIA REGISTERED MAIL
RETURN RECEIPT REQUESTED

Mr. Andrew Praschak
Office of Regional Counsel
U.S. Environmental Protection Agency
Region II
26 Federal Plaza
New York, NY 10278

Re: York Oil Site, Moira, New York

Dear Mr. Praschak:

Attached to this letter is information concerning samples taken at the York Oil Site in Moira, New York by Aluminum Company of America ("Alcoa") employees on March 23, 1983. We hope that this information will be of aid to the Agency in their evaluations and actions at the York Oil Site.

We look forward to a meeting with the Agency and other potentially responsible parties to discuss the remedial investigation/ feasibility study at the York Oil Site. Our site visit has given us a clearer picture of the condition of the site (prior to your latest emergency response action) which should make our discussions more productive. We would appreciate, however, an update on the nature and cost of any emergency response actions conducted by the Agency at the site to bring our information up to date.

Very truly yours,

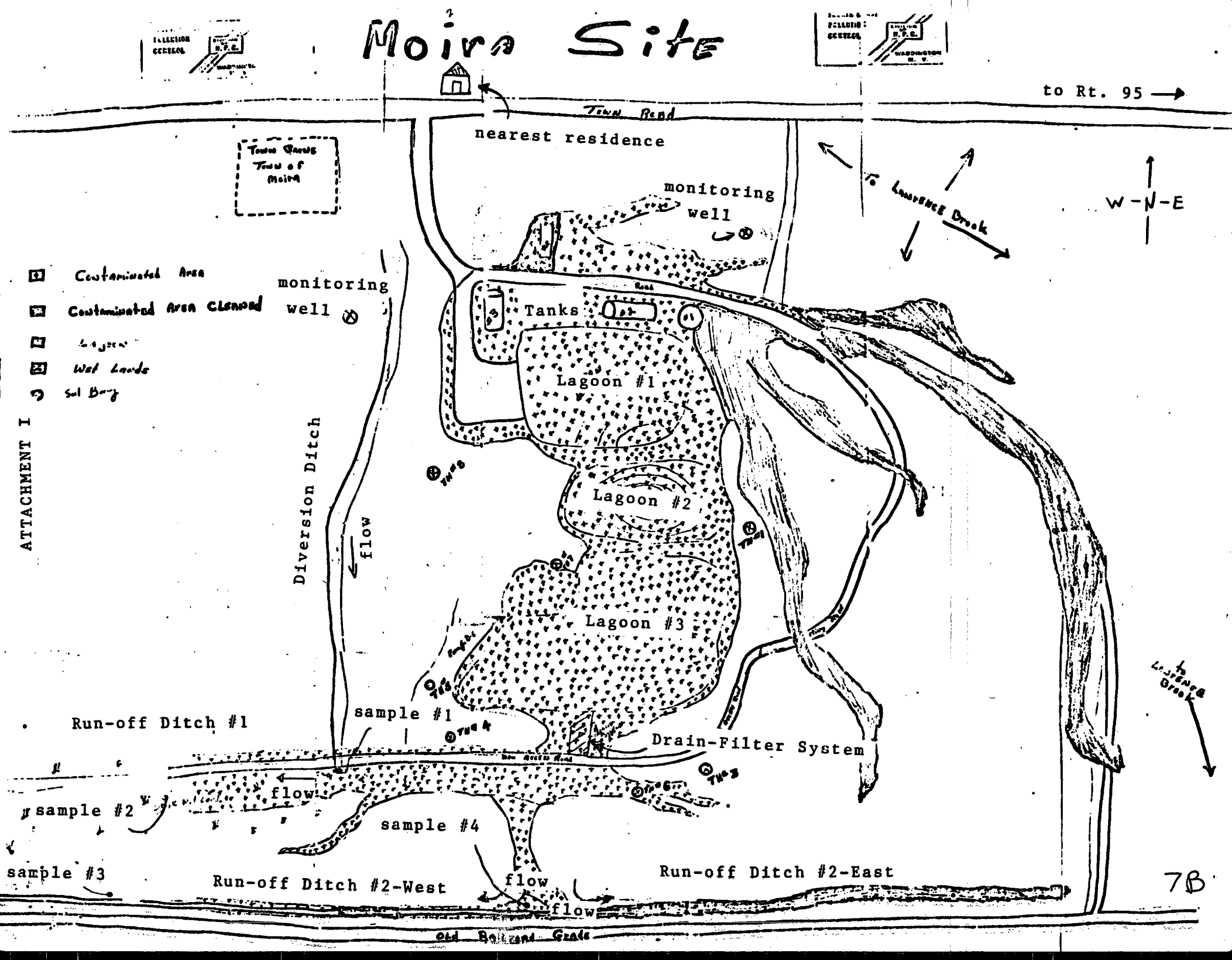
Lawrence V. Castner
Attorney

LVC/dmt

Attachment

C 07A

Moira Site


to Rt. 95
Town Road
nearest residence
Town Owned
Town of
Moira
monitoring
well
W - N - E
Lawrence Brook
Contaminated Area
Contaminated Area Cleaned
Lagoon
Wet Lands
Soil Borg
monitoring
well
Tanks
Lagoon #1
Lagoon #2
Lagoon #3
Diversion Ditch
flow
ATTACHMENT I
Run-off Ditch #1
sample #1
Drain-Filter System
flow
sample #2
sample #4
sample #3
Run-off Ditch #2-West
flow
flow
Run-off Ditch #2-East
Old Bolland Grade
7B

ATTACHMENT II
SAMPLES TAKEN AT YORK OIL SITE

SAMPLE #1

Water taken directly from diversion ditch before entering Run-off Ditch 1.

SAMPLE #2

Water leaving the site from Run-off Ditch 1.

SAMPLE #3

Two-phase mixture--water and brownish solid material--taken from the west section of Run-off Ditch 2.

SAMPLE #4

Two-phase mixture--water and oil--taken from the middle of Run-off Ditch 2.

Sampling locations are noted on map in Attachment I.

Additional sampling information:

Bottle:	1 liter, glass, amber-colored
Preservative Added:	None
Chain of Custody:	G. Crouth > G. Hicks, Massena Operations
	United Postal Service > N. Hornung, ATC
Analysis to Perform:	PCB concentration

7C

ALCOA TECHNICAL CENTER
ANALYTICAL CHEMISTRY DIVISION

83-04-29 18:04 PAGE 2
J.O. NO. 83-033017

AREA: 302 - GAS CHROM. SERVICE (M)

APPROVED:83-04-29

ANALYSIS: POLYCHLORINATED BIPHENYL(PCB)

ID/LSN	PCB CONCENTRATION		AROCLOR TYPE	DETECTION LIMIT	
#1 WATER I N RUN-ON C 309841	NONE DETECTED			1	PPB
#2 WATER L EAVING SIT 309842	NONE DETECTED			1	PPB
#3 BROWN H 20 IN PERI 309843 (Water Phase)	NONE DETECTED			1	PPB
#3 BROWN H 20 IN PERI 309844 (Sediment Phase)	1	PPM	1260	1	PPM
#4 OIL/H20 MIX IN PE 309845 (Water Phase)	76	PPM	1248	5	PPM
#4 OIL/H20 MIX IN PE 309846 (Oil Phase)	300	PPM	1248	5	PPM

****

LAB REFERENCES: 2591-53, 2602-57

ANALYST(S): RHM VLB

****

APPROVED BY: JOHN P. AUSES
FINAL APPROVAL BY: C.J. CULLEITON

*** END OF REPORT ***

JUN 17 1983
Praschak
York Oil

ALUMINUM COMPANY OF AMERICA
ALCOA BUILDING
PITTSBURGH, PENNSYLVANIA 15219

LEGAL DEPARTMENT

ALCOA

REGISTERED MAIL
RETURN RECEIPT REQUESTED

1983 June 14

Mr. Andrew Praschak
Office of Regional Counsel
U.S. Environmental Protection AGency
Region II
26 Federal Plaza
New York, NY 10278

Re: York Oil Site, Moira, New York

Dear Mr. Praschak:

Confirming our earlier conversations, Aluminum Company of America ("Alcoa") remains willing to meet with the Agency and any other entities you have identified as potentially responsible parties to discuss the future of the York Oil site. We hope that by this time you have sent these other entities a notice letter similar to the one sent to us by Mr. Conrad Simon on May 31, 1983. Since you have shared information with us that indicates that other companies may have done business with the companies and people who owned or operated the site, we think that it is appropriate for these companies as well as past and present owners and operators of the site to be afforded the same opportunity to study and clean up the site.

As I have indicated in the past, Alcoa has not ruled out any options regarding this site, nor have we made any decisions regarding future action. Our position remains that we are interested in meeting with you to discuss the components and cost of a remedial investigation/feasibility study at this site. We hope and expect that you will invite any potentially responsible parties to this meeting. We understand, of course, that you cannot assure anyone's attendance except the Agency's. We also hope and expect that you will keep us advised of any immediate removal actions by the Agency at the site, including the scope, duration and cost thereof.

We, of course, also do not agree or disagree with the statement in Mr. Simon's letter that Alcoa "may be a responsible party." I look forward to hearing from you in the near future to discuss the RI/FS for the site.

Very truly yours,

Barbara J. Gardner

Barbara J. Gardner (Mrs.)
General Attorney

BJG:pd

8

RPG
P-463

July 12, 1960

FROM: A. F. MASTON

TO: MR. J. B. PITMAN

Sent copy to CIWR - to Miles 27 July
14 July 1960

Wendell C. Milz - Research Laboratory - New Kensington - phoned Friday 10:00 a.m.

April 9, 1957, he wrote letter to Gonyea about some samples of transformer oil for transformers 21, 22, 23, and 27.

Gonyea had sent some oil samples to New Kensington (Dr. Kipp) for special tests for contamination, rust, etc., because power factors were "looking bad".

They treated the oils and returned the samples to Gonyea. One sample, they had added some activated alumina "fines" deliberately to see if presence of these would affect the power factor.

The oils were returned to Massena because New Kensington did not have equipment to measure power factor. Mr. Milz says he never got any report from Gonyea on the final tests of these oil samples.

Now Public Service of New Jersey is asking Research if activated alumina might affect the power factor. They have used thermosyphon to reduce acidity but seem to be getting higher power factor.

Mr. Milz would like to know if those samples were listed and if the special sample with alumina fines showed up any different from the others as far as power factor is concerned.

This may be a source of information they can "relay" to Public Service of New Jersey.

I told Mr. Milz I'd pass on this information to you people.

A. F. MASTON

AFM/wh

Waste Oil Disposal / Fourth Coast Pollution Control

80/05/28 - 7500 gals removed from 119 tank. Suction pipe approx 12" off bottom of tank. Had problem discharging at receiver due to Al fines in oil.

80/06/02 - 7500 gals removed from 119 tank. Suction pipe approx 40" off of bottom.

PURCHASING DEPARTMENT REQUISITION

299054	15May80	1	Immed.	

ALUMINUM COMPANY OF AMERICA

MASSENA OPERATIONS

Environmental Control

Cost of transporting and disposing of approximately:

1	20,000 GAL	Waste Oil	$0.14/gallon	A 5% 0017618 75% 0017617

TO: Fourth Coast Pollution Control
Waddington, N.Y. 13694
Attn: J. R. Mayette

Call P. Woodward @ 4113

Document 9B

P.F.WOODWARD(303) 15May80

SUBJECT TO PURCHASING DEPARTMENT RULE

CORPORATE RETENTION By Purchasing for Tax Dept. approval

SEP 17 1982
Praschak
file

ALUMINUM COMPANY OF AMERICA

ALCOA BUILDING · PITTSBURGH, PENNSYLVANIA 15219

LEGAL DEPARTMENT

ALCOA

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

1982 September 13

Mr. Andrew C. Praschak
United States Environmental Protection Agency
Region II
26 Federal Plaza
New York, New York 10278

Re: York Oil Company, Moira, New York

Dear Mr. Praschak:

We are writing in reply to your letter of August 23, 1982. To the best of our knowledge, based on an investigation of records and files, we have never had any dealings with a York Oil Company, Moira, New York. We have had dealings with other firms in Moira, most recently, Parent Oil Company, P.O. Box 51, Moira, New York. The latter transactions involved the sale of waste oil to Parent who, we believe, purchased the same for reclamation. Previously, some waste oil was given to other firms who we believe used the oil for road oiling and not reclamation or disposal. We have no analysis of the waste oils in question. However, the present waste oils being generated, which are from the same source, do not contain any "hazardous waste" as defined in your letter of August 23rd.

If you would like to discuss this matter further, I can be reached at (412) 553-4554.

Very truly yours,

Steve M. Morgan

Steven M. Morgan
Attorney

SMM:pd

10

ALUMINUM COMPANY OF AMERICA
ALCOA BUILDING
PITTSBURGH, PENNSYLVANIA 15219

LEGAL DEPARTMENT

ALCOA

(104(a) Resp

1983 April 25

Mr. Andrew L. Praschak, Attorney
General Enforcement Branch
Office of Regional Counsel
U. S. Environmental Protection Agency
Region II
26 Federal Plaza
New York, NY 10278

Re: York Oil Site, Moira, NY

Dear Mr. Praschak:

This letter is in response to Conrad Simon's letter of April 06, 1983. In that letter, Mr. Simon requested that Aluminum Company of America ("Alcoa") notify you of the nature and extent of the corrective measures Alcoa may be willing to undertake at the York Oil Site ("the Site") in Moira, New York.

As you know, Alcoa believes that a decision on the Company's liability for conditions at the York Oil Site is premature at this time since the Agency is in the process of determining whether any other companies may have done business with the owners or operators of this site. As we indicated in our meeting with you on March 8, 1983, we would be happy to meet with the Agency and the other potentially responsible parties when you have identified them and when you have a better idea of the scope of the remedial investigation and feasibility study you intend to undertake at the site.

Please send all future correspondence to my attention. My telephone number is (412) 553-4206.

Sincerely yours,

Barbara J. Gardner
General Attorney

BJG/dmt

cc: Norman Nosenchuck, Director
Division of Solid Waste
New York State Department of Environmental Conservation

11

ALUMINUM COMPANY OF AMERICA
ALCOA BUILDING
PITTSBURGH, PENNSYLVANIA 15219

LEGAL DEPARTMENT

REGISTERED MAIL
RETURN RECEIPT REQUESTED

1983 June 14

Mr. Andrew Praschak
Office of Regional Counsel
U.S. Environmental Protection AGency
Region II
26 Federal Plaza
New York, NY 10278

Re: York Oil Site, Moira, New York

Dear Mr. Praschak:

Confirming our earlier conversations, Aluminum Company of America ("Alcoa") remains willing to meet with the Agency and any other entities you have identified as potentially responsible parties to discuss the future of the York Oil site. We hope that by this time you have sent these other entities a notice letter similar to the one sent to us by Mr. Conrad Simon on May 31, 1983. Since you have shared information with us that indicates that other companies may have done business with the companies and people who owned or operated the site, we think that it is appropriate for these companies as well as past and present owners and operators of the site to be afforded the same opportunity to study and clean up the site.

As I have indicated in the past, Alcoa has not ruled out any options regarding this site, nor have we made any decisions regarding future action. Our position remains that we are interested in meeting with you to discuss the components and cost of a remedial investigation/feasibility study at this site. We hope and expect that you will invite any potentially responsible parties to this meeting. We understand, of course, that you cannot assure anyone's attendance except the Agency's. We also hope and expect that you will keep us advised of any immediate removal actions by the Agency at the site, including the scope, duration and cost thereof.

We, of course, also do not agree or disagree with the statement in Mr. Simon's letter that Alcoa "may be a responsible party." I look forward to hearing from you in the near future to discuss the RI/FS for the site.

Very truly yours,

Barbara J. Gardner

Barbara J. Gardner (Mrs.)
General Attorney

BJG:pd

12

FROM: R. K. BROWN TO: MR. G. H. DUCKWORTH #4

February 17, 1969

RE: WASTE OIL DISPOSAL

Due to the present high level in the waste oil lagoon, alternate storage facilities for waste oils other than soluble oil have become necessary. The Storeroom has made available the #1 tank (5,000-gal.) and the #2 tank (12,000-gal.) behind Bldg. 73 Oil House. These tanks will be used for straight waste oils, with the expectation that the oil reclamation company that now skims the lagoon can pump directly from the tanks. May we have your comments on this?

R. K. BROWN

RKB:CM

013

→ Roy Dunn

February 27, 1969

Pierce Brothers
Moira
New York

Gentlemen:

You presently skim our waste oil from our disposal lagoon and due to its present high level, we are contemplating storing in two tanks straight waste oil. We are assuming that this would not cause any complications to you and that you could pump directly from these tanks to your truck.

Will you please advise the writer if our assumptions are correct.

Very truly yours,

ALUMINUM COMPANY OF AMERICA

G. H. DUCKWORTH
District Purchasing Agent

GHD:bl

Verbal contact no problem
GHD
3/3/69

014

Category Code

Soluble Oil Disposal

2/7 Longyear drill-sumping into oxidation pond

2/11 started hauling to old gravel pit on hill, plus around camp & bunkhouses. Walsh tractor & driver used 2/11 & 12/12, tractor stored from 2/13 – 3/14.

2/11 – 5 loads		3/3 – 6	
2/12 – 7		3/4 – 4	
2/13 – 6		3/5 – 5	
2/15 – 5		3/6 – 0	
23	138,000 gal	3/7 – 2	
		17	102,000 gal
2/17 – 3		3/10 – 0	
2/18 – 5		3/11 – 2	
2/19 – 5		3/12 – 3	
2/20 – 5		3/13 – 5	
2/21 – 5		3/14 – 1	
23	138,000 gal	11	66,000 gal.
2/24 – 5			
2/25 – 5			
2/26 – 5		TOTAL	576,000 gal.
2/27 – 5			
2/28 – 2			
22	132,000 gal	Est. 500,000 to dump &	
		balance to Bunkhouses.	

Additional measures:

Tank at #3 B.H. – never known why when supplied from Tanker, need Tank for year round use. W. Atkinson rep. Tank & will have installed when weather O.K.

Separate dumps for lube oils – 2 Tanks available at 73. Oil House. Dumping time for pumping by Pierce Brothers

Wash water to gravel pit – Discussed by H. Bowie – in future wash water from cleaning pots will be dumping at mill

rather than in lagoon.

<u>Dredge Lagoon</u> — To be checked later

<u>New Lagoon</u> — Not possible — expected reduction of sol. oil usage forthcoming

Category Code

From CW Rookey ---- To Mr J.B. Pitman

Re: Insulating oil.

2- 1 gallon glass bottles of oil shipped to Dr. Kipp New. Kensington A-R-L. on 3-8-57- No further Record- according to Miles Greene & Mel. Stacy.

CWR.

Pete Griggs to T. A. Hines 28 July 1960

Jim:

Will try but I could write a book about this I don't know just what Mr. Callahan has in the back of his head but will give some dope anyhow. Power Fact. Test of Transformer Oils

1. Mr. Callahan states "that the P.F. Test of trans. oil is thought by some to be superior to, or more sensitive than, the interfacial tension test."

The question is superior or more sensitive for what?

P.F. Test has to do more or less with the insulating value of the oil and I.F.T. more or less with the water, etc. with the body of the oil such as varnishes, sodium silicate and other foreign matters.

While the two are related they aren't the same animal.

There are dozens of tests that can be made on oil & each one gives you a different look.

I don't see how the P.F. test can eliminate the IFT test and I back up this statement up by one made by "Doble" which states the following tests shall be made.

1. Dielectric Strength; 2 Power Factor;

Please Make Sc Copies

7

3 Interfacial Tension.

Those Doble people know their oil.

(Neutralization Number can be replaced by I.F.T.

2 We have been using the P.F. test for the evaluation of oil

In the routine test of each piece of equipment that has oil in it we always P.F. the oil, in fact it is a criterion of the whole test inasmuch if your oil isn't good, you can't get a good P.F. test on the equipment.

Only in routine testing & when interested in a particular piece of equipment do we P.F. oil, it shows up things that the dielectric strength doesn't.

3 We think that P.F. test on oil gives you another look at it and is a very desirable test.

You know oil can have water in it in at least 2 ways, one you can see, such as free water & the other water in suspension which will often get by the dielectric test but will be picked up by the P.F. test, water in oil you get acid, then sludge, peroxide, etc., eats up the

3/ winding, sludge skips the coiling, transformer runs hotter, more sludge, acids, etc. and you have a sick transformer if you have one.

4/ Of course treating oil with activated alumina improves the oil, it takes out, primarily, the acid, but also water & sludge, although the water & sludge should be taken out by means of filter press because alumina costs money & is one of the reasons it isn't used more. Fullers earth is cheaper and can be thrown away cheaper than alumina can be reclaimed.

Bad oil even if run through an old sock (not Lemmie) would be improved but activated alumina has such properties that it is especially good.

When used as a breather it dehumidifies the air the transformer breathes & when used as an oil filter & installed on a transformer it takes about everything out of the oil, but is best suited to take care of the acid.

I don't believe there is any question about the fact that alumina can improve oil

4/

I talked to Mr. Clark at one of the Dible conference about this particular matter, trying to sell him some activated alumina and he said it was good stuff but cost too much to buy & there was a problem reclaiming it.

He also said we didn't make it in a fine enough size and he would be interested in getting some finer than he has been able to get. (To experiment with)

I told him I might be able to have Bird get him some but I said I'm in no position to do so.

Might be a good idea to give him some like he wants, he has a big influence on the Dible clients which number everyone in the electrical field. If we could satisfy him (he agrees its good) we might be able to sell some.

As to proving to Mr. Callahan that we have improved our oil by using alumina, it's hard to prove, inasmuch as no record has been kept of the process we have used in treating oil.

5/

We have used filters, heat, alumina, etc. but it seems all at the same time so you can't say the alumina did it all.

When siphons or breathers have been installed on transformers the length of time between Doble test have been so long you can't prove anything

There seems to be some question as to what effect alumina deposits left in oil has on the P.F. of same.

I believe a small amount would have no noticable effect but enough of same would give you a high P.F.

Where is
Where's the alumina coming from, you just don't dump this stuff in, - oil running over it will pick up very little, it has been used in treating lubricating oil.

If more information is required, why not write "Doble Engineering Co., Belmont, Massachusetts. They have all the answers & you can figure what they know is no secret as they tell everyone as consultants, can't hurt us.

Gene

Jim.

1 Aug 1960

Miles -

I did a little editing. If it meets with your approval, I will have Shirley type for your signature. I would like to send it to Tom Sullivan. Will also go over the other one when I have a spare minute or two.

J.

No not mine, rather Ray Gale.

Power Factor Testing 28 July 1960

1. Power factor tests on oil have been performed only as a part of Doble ~~each~~ piece of oil filled equipment. No effort made to Doble oil in equipment not on the Doble schedule

2. Both A. neutralization number (n.n) and interfacial tension (i.f.t.) normally ~~each~~ reflect the condition of oil. As oil deteriorates i.f.t. goes down and n.n. up. Are both ~~to~~ tests necessary?

3. We have ~~footed around~~ experimented with the Allis Chalmers field test for n.n. Probably a good field check. No finite readings.

4. We have tested power factor of pyranol using Doble test cup and a General Radio Capacitance bridge. Results at 80 volts with bridge checked Doble fairly well. GR bridge a lot lighter than Doble set.

5. The effect of ~~Ac. on P.F.~~ activated alumina on power factor — Results of maintenance at Cedars might have been interesting. I don't believe ~~I have any~~ the records are available now.

Very peculiar things turned up at Kotagy Station on 30000 KVA bank # and TB 27. Several had ~~leaked~~

charged with activated aluminum transformer
thermosyphons. Also one after in the
36000 KVA bank was operated off top for some
time. Mr. W. K. Morrison observed to evaluate the
test but as these transformers were removed from
service before sufficient data had been obtained, it was
impossible to draw any conclusions. It is
doubtful that the small amount of data obtained
is still available.

No Jim: I believe Ray Gale
wrote this part ? I wrote
the other part.

~~2~~ - JBP

July 12, 1960

FROM: A. F. MASTON

TO: MR. J. B. PITMAN

Charlie - Doubt if we can run this down, but would you mind do a little research? Thx

Wendell C. Milz - Research Laboratory - New Kensington - phoned Friday 10:00 a.m.

April 9, 1957, he wrote letter to Gonyea about some samples of transformer oil for transformers 21, 22, 23, and 27.

Gonyea had sent some oil samples to New Kensington (Dr. Kipp) for special tests for contamination, ~~rust~~ neutralization, etc., because power factors were "looking bad".

They treated the oils and returned the samples to Gonyea. One sample, they had added some activated alumina "fines" deliberately to see if presence of these would affect the power factor.

The oils were returned to Massena because New Kensington did not have equipment to measure power factor. Mr. Milz says he never got any report from Gonyea on the final tests of these oil samples.

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Mr. Milz would like to know if those samples were listed and if the special sample with alumina fines showed up any different from the others as far as power factor is concerned.

This may be a source of information they can "relay" to Public Service of New Jersey.

I told Mr. Milz I'd pass on this information to you people.

A. F. MASTON

AFM/wh

~~G. H. Duckworth~~
R. K. Brown

FROM: R. K. BROWN TO: ~~MR. G. H. DUCKWORTH #4~~

February 17, 1969

RE: WASTE OIL DISPOSAL

Due to the present high level in the waste oil lagoon, alternate storage facilities for waste oils other than soluble oil have become necessary. The Storeroom has made available the #1 tank (5,000-gal.) and the #2 tank (12,000-gal.) behind Bldg. 73 Oil House. These tanks will be used for straight waste oils, with the expectation that the oil reclamation company that now skims the lagoon can pump directly from the tanks. May we have your comments on this?

R. K. BROWN

RKB:CM

C21

8/22/60

Jim:

Just got a call from the lab. & they say

T-1500-1F	Interfacial	16.7
	Acidity	.33
T-3000-2F	Interfacial	17.1
	Acidity	.44

Gr...

~~T.P.G.~~ ~~H.C.F.~~ J.B.P. RPG-P-16.

INTERNAL CORRESPONDENCE July 14, 1960

FROM

T. W. CALLAHAN

PITTSBURGH OFFICE

TO

MR. J. B. PITMAN

MASSENA

RE: POWER FACTOR TEST OF TRANSFORMER OILS

It has recently come to our attention that the power factor test of transformer oils is thought by some to be superior to, or more sensitive than, the interfacial tension test. We would like to know if you have been using the power factor test for evaluation of your transformer oil. If you have been using this test we would appreciate comments on your experiences with it. We would also like to know if you have had any evidence that the use of activated alumina for maintenance of the oil has resulted in an improvement in the power factor test results.

T. W. CALLAHAN

TWC:ns

cc: Mr. R. V. Wachter - Pittsburgh
Mr. H. Keefer - Pittsburgh

Ray
Miles } Can you comment? - J.

SF 4563 1MM 8-58
PRINTED IN U.S.A.

INSULATION TESTS

MISCELLANEOUS EQUIPMENT

(SPARE BUSHINGS, INSTRUMENT TRANSFORMERS, ETC.)

DOBLE ENGINEERING COMPANY
BELMONT, MASS.
TYPE MH-ME259 DATA SHEET

COMPANY A.C.O.A - Massena, N.Y. DATE Aug. 18-1960

LOCATION OF TESTS Bldg. 78 AIR TEMP. 86°F OIL TEMP.

EQUIPMENT TESTED Oil from Sub. Sta. #16 and #18 WEATHER Clear % HUM. 45

DATE LAST TEST None

LAST TEST SHEET NO. None

LINE NO.	BUSHING SERIAL NO.	TEST KV	EQUIVALENT 10 KV READINGS						% POWER FACTOR				INSULATION RATING
			MICROAMPERES			WATTS							
			METER READING	MULTIPLIER	MICROAMPERES	METER READING	MULTIPLIER	WATTS	MEASURED	COR. 20°C			
1		10	44	20	880	80	.01	.80	9.09	6.64		Oil Temp. 27°C	YB
2													
3			(Sample from Transf. #						T 3000-2F				
4	16 Sub. Sta		Transf. Data: G.E. Type						HT Form DD				
5			Volts 6600-220/440						60~ 3000 KVA				
6			Ser. # 434786			Wndg.			Delta-Delta.				
7													
8													
9													
10		10	45	20	900	92	.02	1.84	20.4	16.12		Oil Temp. 25°C	YB
11													
12			(Sample from Transf. #						T-1500-1F				
13			Transf. Data: G.E. Type						HT Form D				
14	18 Sub Sta.		Volts 6600-220/440						60~ 1500 KVA				
15			Ser # 434748			Wndg.			Delta Delta				
16													
17													
18													
19													
20													
21		10	88	10	880	13	.002	.026	.295	.295		Oil Temp. 20°C	YG
22													
23				Sample - New Oil from									
24				#1 Storage Tank.									
25													
26													
27													
28													
29													

REMARKS

Note: First Sample of Oil from #1 Storage Tank was full of Water. Breakdown of 17000 Volts and Couldn't Keep breaker in on Doble Set.

KEY TO INSULATION RATING

BUSHINGS-INSULATORS-ETC.	WOOD MEMBERS-OIL-ETC.	WINDINGS
G=GOOD	XG=GOOD	WG=GOOD
D=DETERIORATED	XD=DETERIORATED	WD=DETERIORATED
I=INVESTIGATE	XI=INVESTIGATE	WI=INVESTIGATE
B=BAD (REMOVE OR RECONDITION)	XB=BAD (REMOVE OR RECONDITION)	WB=BAD (REMOVE OR RECONDITION)

Interfacial
about 15 dynes/cm
T-1500-1F
Bad
Interfacial
Good
New Oil
Acidity
New Oil
Good
Acidity
about .3 mg KOH/gram of oil
T-1500-1F
Bad

8/1/60

From M. Gonyea

To Mr. J. B. Pitman

Re: Oil from Transformers Nos. 21-22-23 & 27 Rty. Sta

The following has to do with Doble Testing of 6.6 KV System Trans. 21-22-23 (36,000 KVA Bank) and #27 (~~Bank~~).

The matter is brought up at this time in reply to a letter received from Mr. Wendell C. Mix (New Kensington, Research Lab.) regarding some oil that was sent to Dr. Kipp (same location) 3/8/57.

Dr. Kipp tested the 2-1 gallon samples sent him by Mr. Gonyea & says he returned them to us for Doble Testing.

We have no report and cannot remember the oil being received in the Electrical Testing Dept.

We have a case history of work done by the Rty. Sta. and Electrical Testing Dept. in regards to these oils & submitt the same for what it is worth.

Oct. 28, 1954

Routine Doble Test of oil in #27 Trans.

P.F. was 2.45 %

Two days later Oct. 30 after the oil had been filtered the P.F. was 1.79 %

June 19, 1955 the oil in Trans. was again 3.5 %.

August 1, 1960

POWER FACTOR TESTING, JULY 28, 1960

1. Power factor tests on oil have been performed only as a part of Dobling each piece of oil filled equipment. No effort made to Doble oil in equipment not on the Doble schedule.
2. A neutralization number (n.n.) and interfacial tension (i.f.t.) normally reflect the condition of oil. As oil deteriorates i.f.t. goes down and n.n. up. Are both tests necessary?
3. We have experimented with the Allis Chalmers field test for n.n. Probably a good field check. No finite readings.
4. We have tested power factor of pyranol using Doble test cup and a General Radio Capacitance bridge. Results at 80 volts with bridge checked Doble fairly well. GR bridge a lot lighter than Doble set.
5. The effect of activated alumina on power factor. Results of maintenance at Cedars might have been interesting. I don't believe the records are available now. Very peculiar things turned up at Rotary Station on 36,000 KVA bank and TB27. Several had thermosyphons charged with activated alumina. Also one transformer in the 36,000 KVA bank was operated off tap for some time. Mr. W. K. Morrison endeavored to evaluate the results, but as these transformers were removed from service before sufficient data had been obtained, it was impossible to draw any conclusions. It is doubtful that the small amount of data obtained is still available.

Jim:

These copies look fine, let me compliment your girl on such a good job, you must have her trained.

It reads good, if I had know you were going to send them out, I would have written them a little differently, you know so no one could understand same.

Sorry I couldn't give more info.

Glad you thought enough of same to send them out.

Thanks

Gene

5 August 1960

Mike H

If type written copies look o.k. to you, I would like to send them to Tom Colleton, Bob Wockiter, and Howard Hooten - also Mike.

J.

8-22-60

FROM: MILES GREENE

TO: MR. J. B. PITMAN

CC: FILE

RE: INSULATING OIL

The following has to do with insulating oils from Transformers T-1500-1F, Substa. #18; T-3000-2F, Substa. #16; T-750-4P, Substa. #18, and T-750-1L, Substa. #30.

All these transformers are rated 6600 H.S.

A sample of oil from each of the above mentioned transformers was obtained on a routine schedule.

A breakdown test on each was 30,000 volts, however a color test of each showed the following:

T-1500-1F	Color above 8
T-3000-2F	Color 8
T-750-1L	Color 4½
T-750-4P	Color 4½

Note: our color gauge will only read as high as 8,

color 8 is very black.

It is unusual to find oil with a color of more than 1 or 2 in a transformer.

Looking back through our records, I find that this oil had about the same color in 1957 and 1958.

Going further into the matter, a sample of oil was obtained from T-1500-1F and T-3000-2F and a Doble test made on same.

Results:	T-1500-1F	Doble P.F.	16.1%
	T-3000-2F	Doble P.F.	6.6%

These P.F. are way above the limit of 2% set by Doble before an oil should be investigated.

These high P.F. may be due to any of the following causes, or a combination of them.

1. Moisture.
2. Acidity.
3. Mixture of asphalt compounds and oil.
4. Solutions of insulating compounds other than asphalt in the oil.
5. Sludge.

6. Carbon in suspension. (Not likely in a transformer unless there is arcing.

Samples were taken to the Chem. Lab. for an acidity and interfacial test, but they are busy.

In order to obtain some value of acidity and interfacial on the worst of the lot, T-1500-1F, we used the A.C. Test Kit we purchased and ran the test ourselves.

Results: T-1500-1F Acidity about .3 mg. of KOH per gram of oil.

Interfacial about 15 dynes per cm.

We await with interest the lab. report.

In order to substantiate our figures, a sample of new oil from #1 storage tank was obtained. The first sample obtained broke down at 17,000 volts and we couldn't get the breaker to stay in on the Doble Set (water in oil).

After drawing out more oil from #1 storage tank we obtained another sample and the breakdown was 30,000 volts, and it Dobled .29%.

The above is mentioned to alert those concerned that there is water in the storage tank which should be drawn off before oil is used from it.

To sum up, it looks as if the oil in transformer T-1500-1F and T-3000-2F isn't up to the standards.

We have not investigated the oil in Transformers T-750-1L and T-750-4P, but are interested in so doing if you so desire.

Miles Greene

MG/MS

September 22, 1960

J. B. PITMAN

MASSENA WORKS

MR. T. W. CALLAHAN

PITTSBURGH OFFICE

Cc: Messrs. E. C. Prashaw, Massena Works
R. P. Gale, Massena Works

RE: POWER FACTOR TEST OF TRANSFORMER OILS

In reply to your note of September 9, 1960, Mr. R. P. Gale is collecting and co-ordinating information. Please bear with us on this matter as at the moment, we are dealing with other projects having greater priorities.

J. B. PITMAN

JBP:sgs

029

S.F.151-4MM-1-59 Printed in USA

CECOS

CHEMICAL AND ENVIRONMENTAL CONSERVATION SYSTEMS

Waste Shipment Manifest No. 110# 20564

THIS SECTION TO BE COMPLETED BY THE WASTE GENERATOR:

COMPANY NAME	SITE ADDRESS	PICK-UP DATE
ALUMINUM COMPANY OF AMERICA	Park Ave., East, P. O. Box 150	80May01 15

BUSINESS ADDRESS (IF DIFFERENT FROM SITE)	RESPONSIBLE INDIVIDUAL	PHONE NO. EXT.	24 HOUR EMERGENCY NO.
	P.F. Woodward	315/764-4113	315/764-4128

NAME OR DESCRIPTION OF WASTE SHIPPED: PCB-Contaminated Solid(Clothing,rags,absorbent,etc.) (Sml. Capacitors / Lge. Capacitors)

TOXICITY: ☐ LOW ☐ MED ☒ HIGH

QUANTITY SHIPPED	WORK ORDER NO.	PRODUCT CODE	DOT CLASSIFICATION
8181.8 kg. 18,000 Lbs., Gross Weight	20564	12-K	-

PHYSICAL STATE (CIRCLE APPROPRIATE BLOCKS): (SOLID) LIQUID SEMI-SOLID

SPECIFIC GRAVITY: (A .8) .9 1 1.1 1.2 1.3 1.4

VISCOSITY: (A LOW) MEDIUM HIGH

FLASH POINT (°F): <100 100-140 >140 (NONE)

pH (CIRCLE RANGE): (A<1) 2 3 5 7 9 11>

COMPOSITION (ACCOUNT FOR 100%)

Drums %	Contents	% PCB Content
25 %	Large Capacitors	% 680 kg
7 %	Small Capacitors	% 360 kg
75 43 %	Misc. Solids	% 750 10 kg
%		% 1050 kg

CONTRACTED TO:	ADDRESS:	
CECOS INTERNATIONAL, INC.	P.O. Box 619, Niagara Falls, NY. 14302	
RESPONSIBLE INDIVIDUAL: Jack Miller	PHONE NO. AND 24 HOUR EMERGENCY NO.: 716/ 731-3281	F.O.B. POINT
HAULER: D&J Transportation Specialists	ADDRESS: 107 7th North St.,Liverpool, N.Y. 13088	
RESPONSIBLE INDIVIDUAL: Jack Miller	PHONE NO.: 315/475-5989	24 HOUR EMERGENCY NO.
HAZARDOUS WASTE FACILITY DESTINATION: CECOS International, Inc.	ADDRESS: P.O. Box 619, Niagara Falls, N.Y. 14302	
RESPONSIBLE INDIVIDUAL: Jack Miller	PHONE NO.: 315/475-5989	24 HOUR EMERGENCY NO.

I HEREBY CERTIFY THAT THE ABOVE DESCRIBED HAZARDOUS/TOXIC WASTES ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION COMPLYING WITH ALL DOT REGULATIONS.

AUTHORIZED SIGNATURE: P.F. Woodward — DATE: 80/May/01

THIS SECTION TO BE COMPLETED BY THE HAULER:

VEHICLE IDENTIFICATION NO.	HAULER'S PERMIT NO.	STATE	HAULER'S N.Y. STATE NO.
M-77 T-897	7A-002	New York	7A-002

PICK-UP DATE	QUANTITY	OFF LOAD DATE
5/1/80	75 Drums	5/2/80

I HEREBY CERTIFY THAT THE ABOVE DESCRIBED WASTE WERE ACCEPTED FOR TRANSPORTATION AT THE PRODUCER'S SITE AND DELIVERED TO AND OFF LOADED AT THE HAZARDOUS WASTE FACILITY, BOTH AS LISTED HEREUPON.

AUTHORIZED SIGNATURE (DRIVER): Richard C. Lyle — DATE: 5/1/80

AUTHORIZED SIGNATURE (RELAY DRIVER) — DATE

THIS SECTION TO BE COMPLETED BY THE RECEIVER:

I HEREBY CERTIFY THAT THE ABOVE DESCRIBED WASTES WERE DELIVERED TO THIS FACILITY, THAT THE FACILITY IS AUTHORIZED AND PERMITTED TO RECEIVE SUCH WASTES AND THAT THE FINAL DISPOSITION WAS AS SHOWN.

AUTHORIZED SIGNATURE: J.M. Cecon

DATE: 5/2/80

NAME AND LOCATION OF RECEIVING FACILITY: Cecos

DISPOSITION:

____ % INCINERATION ____ % TREATMENT/PROCESSING

____ % RECOVERY 100 % LAND DISPOSAL ____ % STORAGE

____ % TRANSSHIP TO ____

____ % OTHER (SPECIFY) ____

030

White Copy • CECOS • Canary • Invoice • Pink • Hauler's • Goldenrod • Generator's

FROM: R. L. WEGNER - 301

TO: MR. R. J. KOPECKY - 32

1978 June 23

RE: RECLAIMED ML 925

The problems of reclaiming Fire Resistant Hydraulic fluids is presently receiving considerable attention in Pittsburgh and at the Tech Center. Within the next week, we will be shipping approximately 70 drums of contaminated ML 925 to Wallover Oil Company (a new vendor) for reclamation. This shipment will include one drum of the previously reclaimed oil for further processing. The results of this test will determine what will be done with the balance of the ML 925 you have in Reclamation Stores.

R. L. WEGNER

RLW:cdo

xc: D. E. Jackson - 301
E. R. Werner - 4
S. Nagraj - 301

031

Pull 6/26

FROM: R. J. KOPECKY

MASSENA OPERATIONS

TO: MR. D. E. JACKSON ---301

MASSENA OPERATIONS

1978 JUNE 15

RE: RECLAIMED ML-925

As of 03 May 1978 we have 3795 gallons of reclaimed ML925 with a value of $6906.90 in our Reclamation inventories.

This material was originally reclaimed by your area for future consumption. The storeroom has since been advised that the quality of this reclaimed material is such that your personnel does not intend to use it.

If our information is correct, please advise this writer of your plans to dispose of this material.

Thank you.

R. J. KOPECKY

RJK:ebb

cc: E. Werner ---4
File

Dictated 09 June 1978

ED. CALL
216-385-9336

Bill Cutri
WALL over

Ref. Reclaimed FLUID.

MA600486 MA

Ref. Exp. card

John P.

90. Ed Hatfield

Approx 80% Qty Shipped will be Returned

Shipped 74 Drums - Appx 40% goal

MEMO Date 23 June 78

To MBA/FT

From John P

NEW VENDOR: NEED CODE

ORDER TO; PAY TO; PARENT CO. ALL THE SAME:

WALL-OVER CO.
401 Virginia Ave.
EAST Liverpool, Ohio
43920

943579A00

Burns Supply, Inc.
EST. 1904

760 W. Genesee St.
Syracuse, N. Y. 13201
315 - 474-7471

632 Water St.
Watertown, N. Y. 13601
315 - 782-5400

"Industrial Piping Supplies — Plumbing and Heating Supplies"

WALLOVER OIL COMPANY

401 Virginia Avenue East Liverpool, Ohio 43920

Phone: (216) 385-9336

August 4, 1978

Aluminum Company of America
P. O. Box 150
Massenna, New York 13662

Attention: Mr. W. W. Hamilton
Purchasing Department

Dear Mr. Hamilton:

Reference: Alcoa P. O. Number MA600486MA
Reconditioning Phosphate Ester Fluid
Dated June 29, 1978

As a result of the addition of a rust preventive additive as requested by Mr. John Bunting, the price for the reconditioning of your phosphate ester fluid will be $1.80 per gallon, FOB East Liverpool, Ohio, new drums included. Our terms are net 30 days. We have shipped sixty four drums of processed fluid to your Massenna plant today.

If you have any questions or need any further information, please let us know.

Very truly yours,

A. Ted Mengel

A. Ted Mengel

ATM:vm
cc: Mr. John T. Bunting

035

in thousands of lbs

	70	71	72	75	
Reynolds Metal		12.0			Thermal FR-1
P.O. Box 500	6.0	12.0			Thermal FR-2
Masena Ny 13662	23.7	13.5			Pyrolam 135
315 764-0211		13.2	5.37		Pyrolam 135-A
	3.38	4.73			Pyrolam A13 B 3E

(17L)

Inspected 10-81
5-82

4492

1A

ALUMINUM COMPANY OF AMERICA

LIQUID & SOLID WASTES SURVEY: 1977-78 UPDATE

PLANT _____

PERSON(S) CONTACTED AND TITLE(S) _____

ANNUAL PRODUCTION RATES (PRODUCTS AND POUNDS) 200,000 T/yr. primary AL, 270,000 T/yr. Ingot

I. INDUSTRIAL WASTEWATER AND SANITARY SEWAGE

1. NUMBER OF OUTFALLS 5

   NUMBER OF OUTFALLS REQUIRING PERMITS One permit for 5 outfalls

   ATTACH PLANT MAP IDENTIFYING LOCATION OF ALL OUTFALLS.

2. PERMITS - LIST IDENTIFICATION NUMBER AND EXPIRATION DATE

   STATE _____

   NPDES NY 0001732 - 1980 Jan. 30

3. ARE ALL PLANT EFFLUENTS IN COMPLIANCE WITH CURRENT PERMIT REQUIREMENTS?

   EXPLAIN IF NECESSARY. All except for fluorides and Ammonia. Fluoride limit was decreased as of July 1, 1977 to 520 lbs/day which is below guideline for primary aluminum. Ammonia limit was added July 1, 1977. Met the limit of 13 lbs/day until November. Have requested relief for both of these parameters, 1200 lbs/day for fluoride and no limit for ammonia since the ammonia is a natural phenomena not related to the products produced

3000
5300
4000
5000

0 637

4. LIST MAJOR WATER DISCHARGING PROCESSES (INCLUDING COOLING TOWER AND BOILER BLOWDOWNS), ALONG WITH THE VOLUME AND MAIN CONTAMINANTS CONTRIBUTED BY EACH:

PROCESS	ESTIMATED VOLUME (GPM/GPD)	ESTIMATED CONTAMINANT LOADING (PPM OR LBS/DAY)

5. LIST MAJOR REMAINING PROBLEM AREAS FOR MEETING FUTURE ANTICIPATED EFFLUENT STANDARDS. DESCRIBE ON A SEPARATE SHEET.

Need Comment

6. LIST NEW WASTEWATER TREATMENT FACILITIES OR EXPANSIONS/MODERNIZATIONS OF EXISTING INSTALLATIONS COMPLETED SINCE 1971. CAPITAL EXPENDITURES TO DECEMBER 31, 1971 = $275,000 (Sanitary Lagoon - Early 60's)

FACILITY	YEAR	CAPITAL COST	PRESENT CAPACITY	PRESENT AVERAGE FLOW
B365 { Smelt. W.W. Treat.	'72	$750,319		
Inc. Pumps. Capacity	'72 (?)	19,395		

TOTAL CAPITAL COSTS TO DATE _____

7. PROVIDE INFLUENT AND EFFLUENT WASTE ANALYSES FOR THE MAJOR CONTAMINANTS REMOVED IN THE TREATMENT FACILITY. (USE SEPARATE SHEET FOR EACH FACILITY.)

FACILITY _____

PARAMETER	UNTREATED INFLUENT (MG/L)	TREATED EFFLUENT (MG/L)
pH		
TOTAL SUSPENDED SOLIDS		
TOTAL DISSOLVED SOLIDS		
OIL AND GREASE		
ALUMINUM		
HEXAVALENT CHROME		
TOTAL CHROME		
COPPER		
FLUORIDE		
IRON		
TOTAL PHOSPHATE AS P		
SULFATE		
OTHER		

8. LIST DAILY MANPOWER REQUIREMENTS (MANHOURS PER SHIFT) FOR EACH JOB CLASSIFICATION TO OPERATE WASTEWATER TREATMENT FACILITIES.

FACILITY	SUPERVISOR (ENG., CHEMIST, FOREMAN, ETC.)			OPERATOR			MAINTENANCE PERSONNEL			LABORATORY TECHNICIANS		
	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd

9. FINAL DISPOSAL SITE(S) FOR WASTEWATER SLUDGES - Primary Lagoon sludge in containment area adjacent to Lagoon. Secondary lagoon and Sanitary Pond have not been dredged.

10. HOW ARE SLUDGES CONVEYED TO DISPOSAL SITES? ARE PRIVATE FIRMS UTILIZED? Dredged. Leased Mudcat (hydraulic dredge)

11. LIST MAJOR PROBLEM AREAS CAUSED BY POOR DESIGN, MAINTENANCE HEADACHES, UNDERSIZED EQUIPMENT, ETC., ASSOCIATED WITH OPERATION OF THE WASTEWATER TREATMENT FACILITIES - ① Bypass condition at 004 and 002. Have authorization to spent $925,000 to separate Sanitary Sewers in Area I. This will eliminate 004 bypass. Bypass at 002 has been improved by replacing Parco Valves. ② Excessive foam buildup on Venturi scrubs for #445 baking furnaces. ③ Need to examine alternatives for separation of water in treating to improve phenols removal with lime.

12. ANNUAL OPERATING COSTS - LIQUID WASTES - 1977 (USE SEPARATE SHEET FOR EACH FACILITY) ① B365 (090197), Sanitary Lag (090086 / 090186), S001 outfall (090111), (004 - 9190011)

A. DEPRECIATION (INCLUDE TAXES AND INSURANCE) _____

B. UTILITIES (INCLUDE BASE UNIT RATES)

1. GAS/OIL _____
2. ELECTRIC ✓
3. WATER ✓
4. STEAM _____

TOTAL UTILITIES _____

C. LABOR CHARGES:

1. SUPERVISOR _____
2. OPERATOR(S) C. Ransom
3. LAB WORK ✓
4. R & M { 090197 - 225,784 less lime; 090083 - 1545; ~~090086 - 6997 less Chlorine~~; 090111; 0011

TOTAL LABOR _____

D. CHEMICAL COSTS (INCLUDE UNIT COST)

1. ACID (INDICATE TYPE & CONC.) _____
2. ALUM _____
3. SODIUM HYDROXIDE _____
4. LIME (INDICATE TYPE) ✓
5. POLYMERS (INDICATE BRAND & PRODUCT NAME) _____
6. OTHER Chlorine

TOTAL CHEMICAL COST _____

090197 - W.W. Treat
090083 - Oil Lag
090186 - Drift. Pond

E. REPAIR AND MAINTENANCE COSTS (MATERIAL ONLY) _____

F. SLUDGE HAULING/DISPOSAL COSTS (INDICATE UNIT COST WHERE APPROPRIATE) #20,593

TOTAL OPERATING COSTS - 1977 _____

TOTAL GALLONS TREATED - 1977 _____

TOTAL UNIT OPERATING COST ($/1,000 GAL.) _____

II. SOLID WASTE

1. LIST TYPES AND QUANTITIES OF SOLID WASTES INCLUDING INDUSTRIAL WASTE SLUDGES GENERATED IN 1977.

TYPE	POUNDS OR CUBIC YARDS	DISPOSAL METHOD (LANDFILL, INCINERATION, ETC.)
TOTALS		

2. ARE LIQUID WASTES (SUCH AS WASTE PAINTS, SPIRITS, TANK BOTTOM AND SUMP SLUDGES, TARS, WASTE CHEMICALS, ETC.) GENERATED ON SITE? _____. IF YES, LIST TYPE AND QUANTITIES:

TYPE	QUANITY	METHOD OF DISPOSAL	UNIT DISPOSAL CHARGES ($/GAL.)	ANNUAL COSTS
Chemicals (Lab)	negligible	Sol. Oil Lagoon		
Tri Chloroethane Stills	"	Sol. Oil Lagoon		
Primary Lag. Sludge	700 T/yr.	Landfill	$20,593*	
Paint Booth Sludge	?	?		
TOTALS				

* Cost for dredging with Mudcat in '77.

3. TRASH CONTAINERS ON PLANT SITE

	NUMBER	SIZE	TYPE
A. COMPANY OWNED			
SUBTOTAL			(TOTAL STORAGE CAPACITY)
B. CONTRACTOR OWNED			
SUBTOTAL			(TOTAL STORAGE CAPACITY)
TOTALS			

4. NUMBER OF PLANT PICKUP SITES — COMPANY: _____ CONTRACTOR: _____

5. TYPES OF COMPANY OWNED COLLECTION VEHICLES USED (GIVE MANUFACTURER AND CAPACITY)

MANUFACTURER	VEHICLE CAPACITY	NUMBER OF TRIPS TO DISPOSAL SITE PER DAY, WEEK, OR MONTH
'75 International D/D	3yd - 5yd.	
'77 Ford D/D	" "	
'74 Inter. Dump Trk	8 yd	
71 Ford " "	8 yd	

6. IS SOLID WASTE COLLECTION PERFORMED BY PLANT PERSONNEL, PRIVATE FIRM OR BOTH? (EXPLAIN) Two trucks equipped to handle Dempster Dumpster Boxes are used full time transporting boxes from pickup sites to dump. Dump trucks respond to calls for pickup of bricks, 55 gal. drums of heavy oil and sludge, scrap boxes of misc. trash and const. debris. Activity is enough to keep two trucks busy on solid waste disposal.

7. DESCRIBE ANY VOLUME REDUCTION METHODS EMPLOYED EITHER AT THE PLANT OR AT THE DISPOSAL SITES _____

8. IF COMPACTION EQUIPMENT IS UTILIZED AT THE PLANT:

OWNER	MANUFACTURER	RATED CAPACITY (CY)	COMPACTION RATIO

9. COMPANY OWNED DISPOSAL SITE (COMPLETE FOR EACH SITE):

A. DATE OPENED Early

B. LOCATION

C. TOTAL SIZE AND CAPACITY (FT^2, ACRES AND FT^3, CY, TONS)
Area #1, Main landfill - 20 acres original capacity

D. ESTIMATED REMAINING LIFE 8 acres remaining

E. OPERATING PERMIT NUMBER N/A

F. ARE MONITOR WELLS UTILIZED? NUMBER? No

G. PROVISIONS FOR LEACHATE COLLECTION None

H. METHODS FOR LEACHATE TREATMENT None

10. PRIVATELY OWNED DISPOSAL SITE (COMPLETE FOR EACH SITE):

A. OWNER

B. LOCATION

C. ESTIMATED REMAINING LIFE

D. OPERATING PERMIT NUMBER

E. ARE MONITOR WELLS UTILIZED? NUMBER?

F. PROVISIONS FOR LEACHATE COLLECTION

G. METHODS FOR LEACHATE TREATMENT

11. CAPITAL COST OF SOLID WASTE DISPOSAL SYSTEMS AND EQUIPMENT INSTALLED SINCE 1971..... # 63,278

CAPITAL COST TO DECEMBER 31, 1971 = 89,467

TOTAL CAPITAL COST TO DATE = # 152,745

12. ANNUAL DISPOSAL COSTS - SOLID WASTE - 1977

A. DEPRECIATION (INCLUDE TAXES AND INSURANCE) # 12,505

B. UTILITIES (INCLUDE BASE UNIT RATES)

1. GAS/OIL # 3312

2. ELECTRIC _____

TOTAL UTILITIES 3,312

C. RENTAL CHARGES _____

D. PICKUP CHARGES _____

E. DISPOSAL SITE CHARGES (INCLUDE UNIT COSTS) 5,164

F. LABOR CHARGES:

1. SUPERVISOR 2886

2. OPERATOR(S) 5918

3. TRUCK DRIVER(S) 98,272

4. R & M # 14,346

TOTAL LABOR CHARGES 121,422

G. REPAIR AND MAINTENANCE COSTS (MATERIAL ONLY) # 9,252

TOTAL SOLID WASTE DISPOSAL COSTS - 1977 # 151,655

TOTAL CUBIC YARDS OF TRASH - 1977 _____

TOTAL POUNDS OF TRASH - 1977 _____

13. ARE ANY RECYCLING, RECOVERY OR SALVAGING OPERATIONS EMPLOYED TO REDUCE THE VOLUME OF SOLID WASTE SENT TO THE DISPOSAL SITE? IF YES, DESCRIBE.

Scrap lumber is sold. Reuseable waste oil sold on annual contract.

Scrap reclamation $165/mo for scrap lumber = $1980/yr.

CAPITAL-PRIOR '71 - REPORT PREPARED by MR. C.W. MCCONNEL FOR SOLID WASTE in 1972

CAPITAL-SINCE '71 - FROM FIXED CAPITAL RECORDS

DEPRECIATION - " " " "

OPERATORS + DRIVERS - USING VEHICLE NUMBERS SUBMITTED BY ENVIRONMENTAL MANAGER, CENTRAL GARAGE PERSONNEL ESTIMATED UTILIZATION. DOLLARS WERE ARRIVED AT BY TAKING EST'd HOURS X LABOR RATE (DRIVERS = 7.422 And BULLDOZER OPERATOR = 8526) X AUXILLARY RATE (66.841).

FUEL - AUTOMOTIVE/INDUSTRIAL TRUCK REPORT. I USED THE JUNE 6 MOS. AVG. X6 PLUS THE DECEMBER 6 MOS AVG. X6.

R+M LABOR - SAME AS FUEL

R+M MATERIAL - " " "

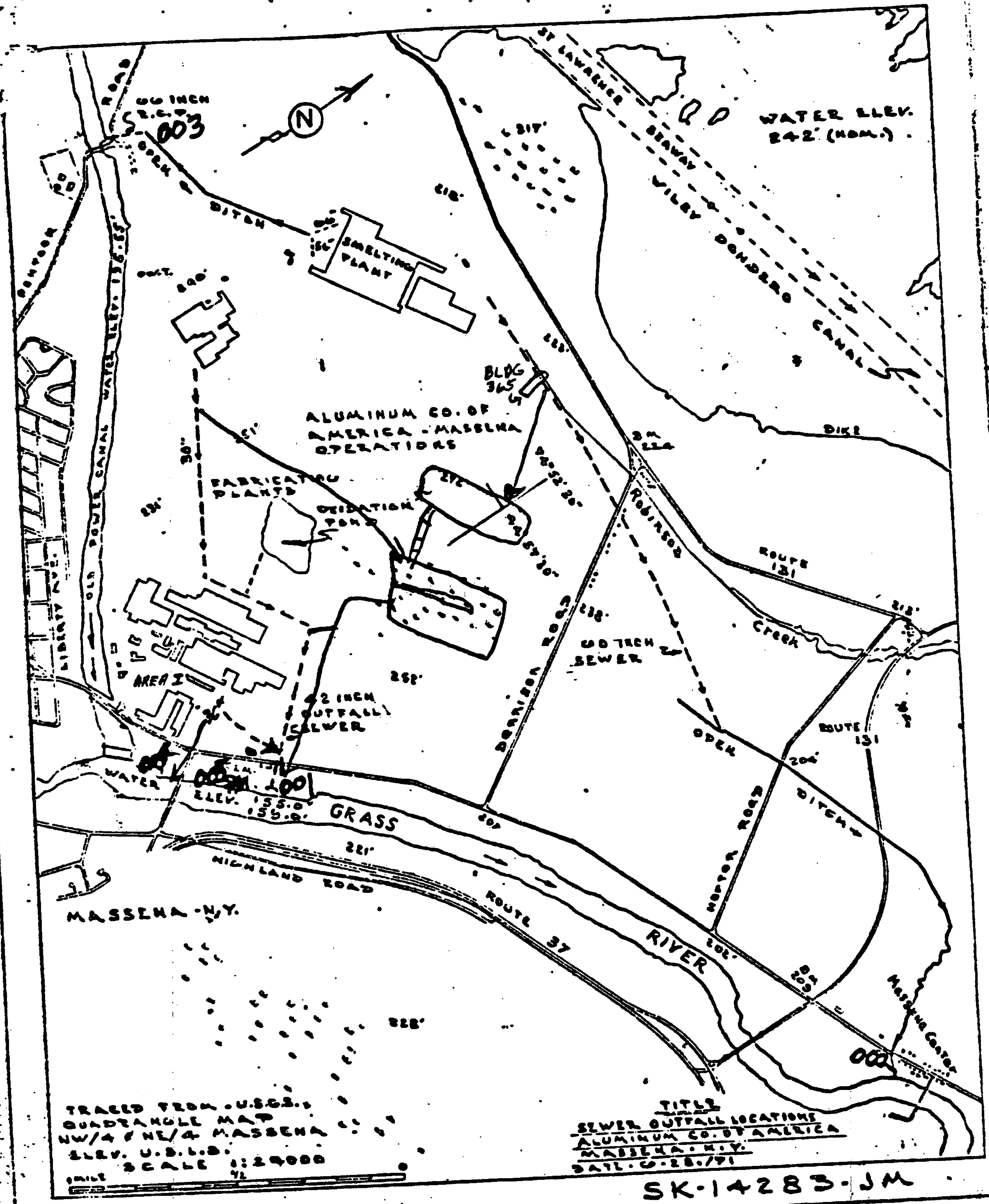
DISPOSAL SITE CHARGES - USED THE 1977 L+B LEDGER And CAPTURED THE COST/MONTH/ACCOUNT.

DETAIL FOR SOLID WASTE REPORT 1978-APR-13

1977

Vehicles	CAPITAL PRIOR '71	CAPITAL SINCE '71	DEPR.	OPERATOR DRIVERS	FUEL	R&M LABOR	R&M MATL	DISPOSAL SITE CHARGES
DEMPSTER DUMPSTER								
1114		18800	3760	25756	1338	4404	2262	
1128		15371	2049	25756	1242	2688	4284	
DUMP TRUCK								
1106		9491	1898	10302	558	2568	744	
1187		8401	-0-	10302	156	1944	1392	
Bulldozer								
1001			3109	5918	18	1968	138	
OIL TRUCK								
1150			146					
OIL TANKER								
2045			40	200				
2052		9425	1145	25756		774	432	
2053		1790	358	200				
DEMPSTER BOXES			-0-					
TOTAL	89467	63278	12505	104190	3312	14346	9252	
090081								1456
090181								2539
090083								1169
090183								
TOTAL								5164

FORM 1223



003
ST LAWRENCE SEAWAY
WILEY DONDERO CANAL
WATER ELEV. 242' (NOM.)
OPEN DITCH
SMELTING PLANT
BLDG 365
ALUMINUM CO. OF AMERICA - MASSENA OPERATIONS
FABRICATING PLANTS
OXIDATION POND
DIKE
ROBINSON CREEK
ROUTE 131
60 INCH SEWER
AREA I
42 INCH OUTFALL SEWER
001
WATER ELEV. 155.0
OLD POWER CANAL
LIBERTY
GRASS RIVER
HIGHLAND ROAD
ROUTE 37
MASSENA - N.Y.
002
TRACED FROM U.S.G.S. QUADRANGLE MAP NW/4 & NE/4 MASSENA
ELEV. U.S.L.S.
SCALE 1:24000
TITLE
SEWER OUTFALL LOCATIONS
ALUMINUM CO. OF AMERICA
MASSENA - N.Y.
DATE 6-28-71
SK-14283-JM

FROM F. M. SITTIG

PITTSBURGH - 219 WPH

TO MR. R. B. HUBBARD

MASSENA OPERATIONS

1977 July 14

RE: INDUSTRIAL LIQUID AND SOLID WASTE SURVEY

The report of your industrial waste survey is attached. I thank you, Phil Woodward, Gerry Hicks and Don Portolese for your cooperation in gathering this information for us.

We believe the recommendations in Section VI should be given serious consideration. If you have any question or comments concerning these items or any other part of the report, please give me a call.

Final reports, comparing operating costs, for liquid and solid waste disposl, cooling tower operations and deionized water systems will be published after completion of this company-wide survey program.

F. Mark Sittig

FMS/dmb

Attachment

cc: V. W. Rieke/E. F. Maziarz, Jr. - AB 2
P. R. Atkins - AB 7
J. S. Boyt - AB 7
P. F. Woodward - Massena
G. D. Hicks, Sr. - Massena
D. P. Portolese - Massena
R. A. Wodehouse - ATC

638A

ALCOA

SF-4563 (REV 11-68)

MASSENA OPERATIONS
INDUSTRIAL LIQUID AND SOLID WASTE SURVEY

This survey was conducted on 1978 May 04 for the purpose of updating and expanding the data base that was established during our initial survey on 1972 April 27. With another round of discharge permit negotiations confronting us in the near future, and with solid waste legislation about to be enacted by Congress, we feel that it is important to have the latest information on the liquid and solid waste situation at Massena Operations. Massena Operations does not have any cooling towers or deionized water systems.

The final section of this report lists our present recommendations that we feel deserve either immediate attention or which will be useful in strategic planning for the next round of permit negotiations.

I. MANUFACTURING OPERATIONS

Massena Operations is engaged in the primary production of aluminum. In 1977 Massena produced [redacted] tons of aluminum ingot.

II. PLANT PERSONNEL

Persons contributing to this report included Messrs. Phil Woodward (Enciron-mental Control Superintendent), Gerry Hicks (Chemical Lab Supervisor) and Don Portolese (Accountant).

III. INDUSTRIAL LIQUID AND SANITARY SEWAGE

A. Permits

Massena Operations has five outfalls covered by one permit. A National Pollutant Discharge Elimination System (NPDES) permit No. NY0001732, dated 1975 January 31, was issued by the Regional Administrator for Region II of the United States Environmental Protection Agency. This permit expires 1980 January 30. The location of the outfalls are shown on the attached map. Although no date has been set, we expect the State of New York to take over the administration of this NPDES permit.

B. Sources of Wastewater

The primary outfall at Massena is 001, with a flow rate of 20 to 25 MGD from the secondary lagoon which includes treated venturi scrubber water, boiler blowdown, ingot plant and extrusion plant cooling water. Outfall 002 is the overflow from Building 365 (wastewater neutralization station). Outfall 003 accepts only storm water runoff from the land southwest of the smelting plant and from the potroom courtyards during periods of high runoff. Outfall 004 is a by-pass of Area I (see attached map for location) wastewater pump station that receives cooling water, storm runoff and sanitary waste. Only a small quantity of storm runoff from Area I is discharged through outfall 005.

C. Treatment Facilities

The treatment facilities at Massena are tabulated below:

Facility	Year Installed	Design Capacity	Present Avg. Flow	Manpower Required
Sanitary Lagoon	1960	1.5 MGD	1 MGD	52 hrs/month
Smelter Wastewater Treatment	1972	19 MGD	6 MGD	160 hrs/month

An analysis of the untreated and treated sanitary wastewater plus storm water is tabulated below:

Parameter	Untreated	Treated
pH	7.6	8.0
Total Suspended Solids, mg/l	30	4
BOD_5, mg/l	23	4
Settleable Solids, mg/l	1	0.1

An analysis of the untreated and treated venturi scrubber water plus storm water is tabulated below:

Parameter	Untreated	Treated
pH	3.0	7.9
Total Suspended Solids, mg/l	71	12
Oil & Grease, mg/l	12	6
Fluoride, mg/l	20.3	19.7
Cyanide, mg/l	0.24	0.23

The 1977 average analysis of the combined treated wastewater at outfall 001 is tabulated below:

Parameter	Treated Effluent
pH	7.7
Total Suspended Solids, mg/l	5
Oil & Grease, mg/l	3.5
Aluminum, mg/l	0.2
Fluoride, mg/l	10
Cyanide, mg/l	0.1

One of the problem areas at Massena is the old potlining pile. Cyanide is still being leached from this material. It may be necessary to put another foot of dirt on the pile. Experiments are also being conducted to determine if the cyanide can be destroyed by treating the runoff with calcium hypochlorite briquettes.

By-pass conditions occur periodically at outfalls 002 and 004 due to rainwater runoff. The by-pass at 002 has been improved by replacing the leaking Parco valves in the force main to the primary lagoon. An authorization to spend $925,000 to separate sanitary and storm sewers will eliminate the 004 by-pass by making it all storm water and noncontact cooling water that can be discharged to the Grasse River at 004 without treatment.

We need to examine alternatives for separating storm water from scrubber water to improve fluoride removal with lime. One way to improve fluoride removal would be to bring the point of lime addition closer to the source of the scrubber water before it gets mixed with storm water.

D. Wastewater Sludges

At the present time, the final disposal site for sludge pumped from the primary lagoon is in a containment area adjacent to the lagoon. Sludge was pumped from the primary lagoon by a leased Mudcat (hydraulic dredge) in 1977 October.

The sanitary waste oxidation pond never has had sludge taken from it and small quantities of sludge have been removed from the secondary lagoon with a clam.

E. Capital & Operating Costs - Liquid Wastes

CAPITAL EXPENDITURES

1. Expenditures to 1971 December 31			$ 275,000
Facility	Year		
Smelting Wastewater Treatment (Bldg. 365)	1972		750,000
Increase Wastewater Treatment Pumping Capacity	1974		20,000
Flow Weir for 001 Outfall	1973		3,300
Oil Detector 004 Outfall	1975		1,400
Pump Station Line 6 Storm Sewer	1975		134,000
TOTAL CAPITAL EXPENDITURES TO DATE		=	$1,183,700

OPERATING EXPENSES - 1977

1. Industrial Wastewater Treatment			
a) Depreciation (Includes taxes & insurance)			$ 40,000
b) Electricity @ $0.011/KWH			7,000
c) Labor Charges			
1) Supervisor (10% of a man)	$ 8,000		
2) Operator (1 man, 8 hrs/day)	25,000		
3) Lab Work	5,000		
4) R & M	3,000		
Total Labor Charges			$ 41,000

d)	Lime (Pebble) @ $30/ton	$ 38,500
e)	Repair & Maintenance Costs (Material only).....	10,000
f)	Sludge Removal Costs (Mudcat)	21,000

TOTAL OPERATING COSTS - 1977 = $157,500
TOTAL GALLONS TREATED - 1977 = 7,000,000,000
TOTAL UNIT OPERATING COST = $0.02/1000 GAL.

2. Sanitary Waste Treatment

a)	Depreciation (Includes taxes & insurance).....		$ -0-
b)	Utilities		
	1) Electricity @ $0.011/KWH	$1,000	
	2) Water @ $0.014/1,000 Gal.....	500	
	Total Utilities		$1,500
c)	Labor Charges		
	1) Supervisor (1% of one man).....	$1,000	
	2) Operator (20% of one man).....	3,300	
	3) Lab Work	600	
	4) R & M	500	
	Total Labor Charges.....		$5,400
d)	Chlorine : From May 1 to Oct. 1 - 3,100 lbs.....		$ 350
e)	Repair & Maintenance Costs (Material only).....		$1,000

TOTAL OPERATING COSTS - 1977 = $8,250
TOTAL GALLONS TREATED - 1977 = 20,000,000
TOTAL UNIT OPERATING COST = $0.41/1000 GAL.

IV. SOLID WASTE DISPOSAL

A. Types and Quantities

Most of the solid waste disposed of at Massena Operations main landfill (Area No. 1, see drawing B-105209-JM) is described as miscellaneous waste which consists of:

1. 85% paper and wood products (packaging materials), wood pallets, wood chips and sawdust, and lunch area and office refuse that consists of paper towels and containers made from paper, steel and glass, and food scraps estimated less than 1% of the volume.

2. 15% other materials such as: steel (banding, drums, broken parts, turnings and cuttings), slag from cast iron melting furnaces, floor sweepings, carbon dust, polyethylene (sheet, bags, reels), and fabric bags from dust collectors (orlon and cotton).

The various types and quantities of solid waste at Massena are tabulated below:

Description	Tons/Yr.	Uncompacted Yd^3/Yr.
Miscellaneous Waste	16,300	43,200
Bricks	5,500	4,600
Sand	160	120
Aluminum Fines	130	80
Aluminum Skim Dust	16	20
Wood Reels & Construction Debris	3,000	3,800
Potlining	5,000	3,700
Total Solid Waste	30,000	55,500

B. Collection Process

All solid waste that does not require special handling is disposed of in the Main Landfill (Area No. 1) with the exception of waste containing asbestos. Reuseable lumber and wooden reels are accumulated in one area and held for sale. Once a year, all clean lumber on hand is burned under permit from the New York State Department of Environmental Conservation.

Miscellaneous waste is accumulated in company owned 3 yd^3 Dempster-Dumpster boxes that are located in all areas of the Operations. Office and lunch room waste with few exceptions are contained in plastic bags. The full boxes are transferred to the dump five days a week. Some miscellaneous waste is collected in open boxes designed for handling with fork trucks. The waste in these boxes is loaded into company owned dump trucks for transfer to the dump. Scrap bricks from production facilities and earth and concrete from construction projects are hauled to the dump in company owned dump trucks. Activity is enough to keep two trucks busy on solid waste disposal.

Once a week the active area of the dump is leveled with a bull dozer. Clean fill is added if necessary, but generally there is enough siliceous material in the waste to form a solid cover.

On the day the dump is to be leveled, a truck is dispatched to pick up the boxes reserved for asbestos waste. This waste is contained in plastic bags. The bull dozer operator directs the truck driver where to dump the waste so that it can be covered that same day during the leveling process.

C. Disposal Sites

The company owned Main Landfill (Area No. 1) was probably opened about 1910 and originally occupied about 20 acres. About 8 acres remain at the present time.

The soil in this area is predominately grey clay. Percolation tests of the soil in this area made in 1960 resulted in zero precolation. There are no wells in the area because all water for plant usage comes from Lake St. Lawrence. The nearest known private wells are along Dennison Road, about 6,000 feet away in a northerly direction.

Two lagoons (Area No. 2) adjacent to Area No. 1 landfill are utilized for disposal of used soluble oil and lubricating oils. The soluble oil lagoon has a surface area of 125,000 square feet to promote evaporation and has a capacity in excess of 5,000,000 gallons. The lube oil lagoon is a holding pond with a capacity of about 900,000 gallons.

All spent lubricating oils removed from crank cases of mobile equipment and gear boxes and reservoirs of machines used in maintenance shops and in the mills are transferred to the lube oil pond where they are held for collection by an oil scavenger several times a year. About 135,000 gallons of lubricating oils and process oils are disposed of annually. These oils are mineral oils and polybutenes.

Spent soluble oil that averages about 2% oil in water is disposed of in the soluble oil lagoon. Water from the bottom of the lube oil pond is pumped into this lagoon and oil that collects on the surface of the soluble oil lagoon is pumped back to the lube oil pond. Spent caustic soda and acid solutions from aluminum etching facilities and wax emulsions are also disposed of in this lagoon.

About 300,000 gallons of soluble oil used in rolling mills and saws is discarded annually. The aqueous caustic soda and acid solutions discarded amount to about 500,000 gallons per year. These volumes plus rainfall exceed evaporation. To prevent overflows, the excess water is pumped into a nearby 60 acre polishing lagoon which is part of Massena's industrial wastewater treatment facility. The concentration of oil and grease in the wastewater discharge covered in the NPDES permit is well below the limit for daily and monthly averages.

Area No. 3 Landfill, a 25 foot deep ravine near Dennison Road, is used for the disposal of heavy oils, oily waste and sludges. The 800 foot long ravine was formed by material dredged from the Grasse River. This site is screened from view from Dennison Road by a grove of trees and is about 2,500 feet from the nearest residence which is to the north on Dennison Road.

Most of the materials disposed of in the ravine come from the reservoirs associated with wire drawing machines and rolling mills. These reservoirs are pumped down and cleaned out, usually twice a year. The residue in the bottom is loaded into steel drums and dumped into the ravine. Oily waste from cleanup of the mills is also disposed of in the ravine. The drums of waste are covered with clean earth from the banks of the ravine once a month except during the winter months. Drums dumped during the winter are covered as soon as weather permits.

Approximately 10,000 gallons of oily sludges are discarded annually. The oil component is soluble oil, mineral oil and polybutenes. The solids are aluminum and steel fines, waxes, dirt and absorbent materials used in cleanup of the mills.

About 5,000 tons of used potlinings are disposed of annually in outdoor piles (Areas No. 4 and 5). In 1976 October, covering of the then existing pile (Area No. 4) with one foot of compacted earth was begun and a new pile was started at Area No. 5. Covering of the old pile was completed, including seeding and mulching, during 1977 July.

The new pile is located near the top of a wooded ridge in a two acre site with extensive adjacent land for dispersion of leachate.

An application for a permit to operate a solid waste management facility was sent to the New York State Department of Environmental Conservation 1978 May 10.

There are no monitoring wells or provisions for leachate collection and treatment at any of the disposal sites.

D. Capital and Operating Costs - Solid Wastes

CAPITAL EXPENDITURES

1.	Expenditures to 1971 December 31		$ 89,467
2.	Expenditures since 1971		
	a) Dempster-Dumpsters	$ 34,171	
	b) Dump Truck, 1974 International	9,491	
	c) Dump Truck, 1971 Ford	8,401	
	d) Oil Tanker	9,425	
	e) Oil Tanker	1,790	
	Total Expenditures		$ 63,278
	TOTAL CAPITAL EXPENDITURES TO DATE	=	$152,745

ANNUAL DISPOSAL COSTS - 1977

1.	Depreciation (Includes taxes and insurance).....		$ 12,505
2.	Gas and Oil		3,312
3.	Disposal Site Charges (Bull dozer time).....		5,164
4.	Labor Charges		
	a) Supervisor	$ 2,886	
	b) Bull Dozer Operator	5,918	
	c) Truck Drivers	98,272	
	d) R & M	14,346	
	Total Labor Charges		$121,422
5.	Repair and Maintenance (Material only)		$ 9,252

TOTAL SOLID WASTE DISPOSAL COSTS - 1977	=	$151,655
TOTAL CUBIC YARDS OF TRASH - 1977	=	55,500
TOTAL UNIT DISPOSAL COSTS	=	$2.73/cy

Total solid waste disposal costs less credit of $60,000 for scrap and reclamation sales = $91,655.

Cost per cubic yard of trash after taking credit for scrap sales = $1.65/cy.

E. Liquid or Semi-Liquid Concentrates

At Massena, all of the waste liquids or semi-liquid concentrates are handled with the solid wastes and their cost for disposal are accumulated with the costs for solid waste disposal and were reported above.

V. PROBLEM AREAS

A. The problem of controlling and/or treating potlining leachate continues to concern Massena Operations. The cyanide concentration in the wastewater has exceeded our permit limit on several occasions.

B. The problem of by-pass conditions at outfall 004 caused by the present combined storm, process water and sanitary waste should be solved by the recent (1978 March) authorization to spend $925,000 to separate the sanitary sewers in this area.

C. The fluoride concentration in the untreated wastewater has decreased since the potroom scrubbers have been shut down. This has resulted in a decrease in the efficiency of the lime treatment for fluoride removal at Building 365. Therefore, we need to examine alternatives for adding lime to a more concentrated fluoride waste stream or separating the storm water from the wastewater bearing fluoride.

D. There may be a potential problem area because of some uncertainties surrounding the copper limit in Massena's NPDES permit. In February 1978 the Federal EPA raised Massena's daily average copper limit from 3.9 lbs. to 75 lbs. However, the State of New York will soon take over the administration of the NPDES permit and the State has requested more information to justify the higher copper limit.

E. Another potential problem area could involve the repercussions of not obtaining some waivers from the State's new solid waste regulations. However, the State has acknowledged receipt of Massena's report on solid waste disposal and called the report "complete" and classified Massena's solid waste as a "minor project."

VI. RECOMMENDATIONS

A. In an effort to reduce potlining leachate we recommend that another foot of cover be added to the old pile. We also suggest that ATC be requested to look into possible ways to collect and treat the leachate for cyanide destruction.

B. With respect to fluoride, we recommend that alternatives be examined to separate storm water from wastewater or install lime feeding equipment closer to the discharge of the venturi scrubbers to improve fluoride removal.

C. In order to evaluate the copper recovery process developed by R. A. Wodehouse from Alcoa Technical Center Finishes Division, we recommend that a full scale system be tested at ATC.

F. Mark Sittig
1978 July 14

ALUMINUM COMPANY OF AMERICA

P. O. BOX 150 · MASSENA, NEW YORK 13662

MASSENA OPERATIONS

ALCOA

1978 May 10

Mr. R. J. Guiendon
New York State
Department of Environmental Conservation
317 Washington Street
Watertown, New York 13601

RE: APPLICATION FOR PERMIT TO
OPERATE SOLID WASTE DISPOSAL FACILITY

Dear Mr. Guiendon:

The following are enclosed:

Application Fee for $300.00

Report: Alcoa Massena Operations Description
of Solid Waste Disposal Facility
Application for Approval to Construct a Solid
Waste Management Facility
Application for Approval to Operate a Solid
Waste Management Facility
Applications (five) for Variance from
6 NYCRR 360

The On-Site Supervisor has not attended an approved training course for operation of a solid waste disposal facility. Please notify me when training courses will be offered so that he can be scheduled to attend.

Very truly yours,

P. F. Woodward

P. F. Woodward
Environmental Control Superintendent

PFW:cdo

Enclosures

G 039 A

ALCOA

ALUMINUM COMPANY OF AMERICA
MASSENA, NEW YORK

IMPREST FUND STATEMENT OF PAYMENT

PAYEE:

DATE MO. DAY YR. 5 11 78

AMOUNT 300 00

REASON:

DETACH AND RETAIN THIS STUB FOR YOUR RECORD

CASH VOUCHER

DO NOT WRITE IN THIS SPACE

Aluminum Company of America DR
COMPANY

Massena Operations
WORKS

AS PER DETAILED ACCOUNT BELOW

1978 May 10
DATE 19

TO New York State Dept. of Environmental Conservation

		For: Application for Approval to Operate a Solid Waste Management Facility			$300	00

Ref. 31072

CHARGE ACCOUNT
71980 - Should have been 71996, Misc.

RECEIVED PAYMENT IN FULL FOR ABOVE ACCOUNT

APPROVED

WKS. MGR. OR WKS. OFF. MGR.

39B

SF-2816 (REV. 10-82)

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

APPLICATION FOR VARIANCE FROM 6 NYCRR 360

SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

FOR STATE USE ONLY	
PROJECT NO.	DATE RECEIVED
DEPARTMENT ACTION ☐ Approved ☐ Disapproved	DATE

1. OWNER'S NAME	2. ADDRESS (Street, City, State, Zip Code)	3. Telephone No.
Aluminum Company of America	Park Avenue East, Massena, N.Y.13662	315-764-4011
4. OPERATOR'S NAME	5. ADDRESS (Street, City, State, Zip Code)	6. Telephone No.
H. P. Bezio	Same	315-764-4191
7. ENGINEER'S NAME	8. ADDRESS (Street, City, State, Zip Code)	9. Telephone No.
R. K. Brown	Same	315-764-4284

10. PROJECT/FACILITY NAME
Alcoa Massena Solid Waste Disposal

11. PROJECT STATUS	12. COUNTY IN WHICH FACILITY IS LOCATED	13. ENVIRONMENTAL CONSERVATION REGION
☐ Public ☐ Private ☐ Proposed ☐ Existing	St. Lawrence	6

14. DESCRIBE SPECIFIC LOCATION OF FACILITY
Massena (T), New York, See Drawing No. B-086592-JM Area No. 5

15. TYPE OF PROJECT FACILITIES: ☐ Composting ☐ Transfer ☐ Shredding ☐ Baling ☐ Sanitary Landfill ☐ Incineration ☐ Pyrolysis
☐ Resource Recovery-Energy ☐ Resource Recovery-Materials ☐ Other Industrial Waste Disposal

16. BRIEFLY DESCRIBE THE PROJECT INCLUDING THE BASIC PROCESS AND MAJOR COMPONENTS
See attached report "Alcoa Massena Operations: Description of Solid Waste Disposal Facility"

17. SPECIFIC PROVISION OF 6 NYCRR 360 FROM WHICH A VARIANCE IS REQUESTED: Section 360.8(b) | Paragraph 3 | Variance Request No. 5

18. BRIEFLY DESCRIBE PROPOSED VARIANCE
Relief from sanitary landfill cover and compaction requirements.

19. IMPACTS OF VARIANCE APPROVAL OR DISAPPROVAL:

a. Environmental Impact:
With adequate land area for dispersion of leachate from dug potlining storage piles, no adverse impact will result to the air and waters of the environment.

b. Economic Impact: Cost of containment of leachate and treatment for destruction of cyanide would be high.

20. CERTIFICATION:
I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

78-05-10
Date

P.F. Woodward
F. F. Woodward, Environ Signature and Control Superintendent

47-19-5 (6/77)

APPLICANT COPY

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

APPLICATION FOR VARIANCE FROM 6 NYCRR 360

SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

FOR STATE USE ONLY	
PROJECT NO.	DATE RECEIVED
DEPARTMENT ACTION ☐ Approved ☐ Disapproved	DATE

1. OWNER'S NAME	2. ADDRESS (Street, City, State, Zip Code)	3. Telephone No.
Aluminum Company of America	Park Avenue East, Massena, N.Y. 13662	315-764-4011
4. OPERATOR'S NAME	**5. ADDRESS (Street, City, State, Zip Code)**	**6. Telephone No.**
H. P. Beelo.	Same	315-764-4191
7. ENGINEER'S NAME	**8. ADDRESS (Street, City, State, Zip Code)**	**9. Telephone No.**
R. K. Brown	Same	315-764-4284

10. PROJECT/FACILITY NAME
Alcoa Massena Solid Waste Disposal

11. PROJECT STATUS	12. COUNTY IN WHICH FACILITY IS LOCATED	13. ENVIRONMENTAL CONSERVATION REGION
☐ Public ☐ Private ☐ Proposed ☐ Existing	St. Lawrence	6

14. DESCRIBE SPECIFIC LOCATION OF FACILITY
Massena (T), New York, See Drawing No. B-086592-JM Area No. 2

15. TYPE OF PROJECT FACILITIES: ☐ Composting ☐ Transfer ☐ Shredding ☐ Baling ☐ Sanitary Landfill ☐ Incineration ☐ Pyrolysis ☐ Resource Recovery-Energy ☐ Resource Recovery-Materials ☐ Other Industrial Waste Disposal - Lagoons

16. BRIEFLY DESCRIBE THE PROJECT INCLUDING THE BASIC PROCESS AND MAJOR COMPONENTS
See attached report "Alcoa Massena Operations: Description of Solid Waste Disposal Facility"

17. SPECIFIC PROVISION OF 6 NYCRR 360 FROM WHICH A VARIANCE IS REQUESTED: Section 360.8(b) | Paragraph (3) | Variance Request No. 4

18. BRIEFLY DESCRIBE PROPOSED VARIANCE
Relief from covering and compaction requirements for sanitary landfills that are not compatible with the operation of lagoons.

19. IMPACTS OF VARIANCE APPROVAL OR DISAPPROVAL:

a. Environmental Impact: No adverse effects to the environment have resulted for the operation of the oil lagoons as described in Section II, Area No. 2 of the report.

b. Economic Impact: Cost of alternate disposal methods have not been determined.

20. CERTIFICATION:
I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

1978 May 10 — Date

P. F. Woodward — Signature

P. F. Woodward, Environ[illegible]ntrol Superintendent

47-19-5 (6/77)
Formerly SW-23

APPLICANT COPY

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

APPLICATION FOR VARIANCE FROM 6 NYCRR 360

SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

FOR STATE USE ONLY	
PROJECT NO.	DATE RECEIVED
DEPARTMENT ACTION ☐ Approved ☐ Disapproved	DATE

1. OWNER'S NAME	2. ADDRESS (Street, City, State, Zip Code)	3. Telephone No.
Aluminum Company of America	Park Avenue East, Massena, N.Y.13662	315-764-4011
4. OPERATOR'S NAME	**5. ADDRESS (Street, City, State, Zip Code)**	**6. Telephone No.**
E. P. Bosio	Same	315-764-4191
7. ENGINEER'S NAME	**8. ADDRESS (Street, City, State, Zip Code)**	**9. Telephone No.**
R. K. Brown	Same	315-764-4284

10. PROJECT/FACILITY NAME
Alcoa Massena Solid Waste Disposal

11. PROJECT STATUS	12. COUNTY IN WHICH FACILITY IS LOCATED	13. ENVIRONMENTAL CONSERVATION REGION
☐ Public ☐ Private ☐ Proposed ☐ Existing	St. Lawrence	6

14. DESCRIBE SPECIFIC LOCATION OF FACILITY
Massena (T), New York, See Drawing No. E-086592-JM Area No. 1

15. TYPE OF PROJECT FACILITIES: ☐ Composting ☐ Transfer ☐ Shredding ☐ Baling ☐ Sanitary Landfill ☐ Incineration ☐ Pyrolysis ☐ Resource Recovery-Energy ☐ Resource Recovery-Materials ☐ Other Landfill

16. BRIEFLY DESCRIBE THE PROJECT INCLUDING THE BASIC PROCESS AND MAJOR COMPONENTS
See attached report "Alcoa Massena Operation: Description of Solid Waste Disposal Facility"

17. SPECIFIC PROVISION OF 6 NYCRR 360 FROM WHICH A VARIANCE IS REQUESTED: Section 360.8(b) | Paragraph (1)(xi) | Variance Request No. 3

18. BRIEFLY DESCRIBE PROPOSED VARIANCE
Acceptance of discarded process materials containing asbestos in Area No. 1 with provision for containment and same day coverage as described in Section II, Area No. 1 of this report.

19. IMPACTS OF VARIANCE APPROVAL OR DISAPPROVAL:

a. Environmental Impact: No contamination by asbestos fibers of the air or waters in the environment will result from this disposal practice because of the procedures for containment and coverage. Handled in this manner, these materials are non-hazardous industrial waste.

b. Economic Impact:
Cost of disapproval unknown.

20. CERTIFICATION:
I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

10
Date

P. F. Woodward
P. F. Woodward, Environmental Control Superintendent
Signature and Title

47-19-5 (6/77) APPLICANT COPY

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

APPLICATION FOR VARIANCE FROM 6 NYCRR 360

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FOR STATE USE ONLY	
PROJECT NO.	DATE RECEIVED
DEPARTMENT ACTION ☐ Approved ☐ Disapproved	DATE

1. OWNER'S NAME	2. ADDRESS (Street, City, State, Zip Code)	3. Telephone No.
Aluminum Company of America	Park Avenue East, Massena, N.Y. 13662	315-764-4011
4. OPERATOR'S NAME	**5. ADDRESS (Street, City, State, Zip Code)**	**6. Telephone No.**
H. P. Basio	Same	315-764-4191
7. ENGINEER'S NAME	**8. ADDRESS (Street, City, State, Zip Code)**	**9. Telephone No.**
R. K. Brown	Same	315-764-4284

10. PROJECT/FACILITY NAME
Alcoa Massena Solid Waste Disposal

11. PROJECT STATUS	12. COUNTY IN WHICH FACILITY IS LOCATED	13. ENVIRONMENTAL CONSERVATION REGION
☐ Public ☐ Private ☐ Proposed ☐ Existing	St. Lawrence	6

14. DESCRIBE SPECIFIC LOCATION OF FACILITY
Massena (T), New York, See Drawing No. B-086592-JM Area No. 3

15. TYPE OF PROJECT FACILITIES: ☐ Composting ☐ Transfer ☐ Shredding ☐ Baling ☐ Sanitary Landfill ☐ Incineration ☐ Pyrolysis
☐ Resource Recovery-Energy ☐ Resource Recovery-Materials ☐ Other Landfill

16. BRIEFLY DESCRIBE THE PROJECT INCLUDING THE BASIC PROCESS AND MAJOR COMPONENTS
See attached report "Alcoa Massena Operations: Description of Solid Waste Disposal Facility"

17. SPECIFIC PROVISION OF 6 NYCRR 360 FROM WHICH A VARIANCE IS REQUESTED: Section 360.8(5) | Paragraph (1)(vii) | Variance Request No. 2

18. BRIEFLY DESCRIBE PROPOSED VARIANCE
Modification of specific cover and compaction requirements listed as items (a), (b), (c) and (d) to allow continuation of the practices described in Section II, Area No. 3, of the report.

19. IMPACTS OF VARIANCE APPROVAL OR DISAPPROVAL:

a. Environmental Impact: No adverse effects have resulted from vectors, dust or odors and no adverse effects have resulted to surface water or ground water; therefore, approval to continue current leveling and covering practices should not cause any adverse effects to the environment. See Sections II and III of the report for site information and description of waste materials.

b. Economic Impact:
Disapproval would result in closing site and the cost of developing a new site. No cost estimate has been made.

20. CERTIFICATION:
I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

1978 May 10 — P. F. Woodward
Date — Signature and Title: P. F. Woodward, Environmental Superintendent

47-19-5 (6/77)
Formerly SW-23

APPLICANT COPY

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

APPLICATION FOR VARIANCE FROM 6 NYCRR 360

SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

FOR STATE USE ONLY	
PROJECT NO.	DATE RECEIVED
DEPARTMENT ACTION ☐ Approved ☐ Disapproved	DATE

1. OWNER'S NAME	2. ADDRESS (Street, City, State, Zip Code)	3. Telephone No.
Aluminum Company of America	Park Avenue East, Massena, N.Y. 13662	315-764-4011
4. OPERATOR'S NAME	**5. ADDRESS (Street, City, State, Zip Code)**	**6. Telephone No.**
P. P. Basile	Same	315-764-4191
7. ENGINEER'S NAME	**8. ADDRESS (Street, City, State, Zip Code)**	**9. Telephone No.**
R. E. Brown	Same	315-764-4284

10. PROJECT/FACILITY NAME
Alcoa Massena Solid Waste Disposal

11. PROJECT STATUS	12. COUNTY IN WHICH FACILITY IS LOCATED	13. ENVIRONMENTAL CONSERVATION REGION
☐ Public ☐ Private ☐ Proposed ☐ Existing	St. Lawrence	6

14. DESCRIBE SPECIFIC LOCATION OF FACILITY
Massena (T), New York, See Drawing No. B-086592-JM Area No. 1

15. TYPE OF PROJECT FACILITIES: ☐ Composting ☐ Transfer ☐ Shredding ☐ Baling ☐ Sanitary Landfill ☐ Incineration ☐ Pyrolysis ☐ Resource Recovery-Energy ☐ Resource Recovery-Materials ☐ Other Landfill

16. BRIEFLY DESCRIBE THE PROJECT INCLUDING THE BASIC PROCESS AND MAJOR COMPONENTS
See attached report "Alcoa Massena Operations: Description of Solid Waste Disposal Facility"

17. SPECIFIC PROVISION OF 6 NYCRR 360 FROM WHICH A VARIANCE IS REQUESTED: Section 360.8(b) | Paragraph (1)(vii) | Variance Request No. 1

18. BRIEFLY DESCRIBE PROPOSED VARIANCE
Modification of specific cover and compaction requirements listed as items (a), (b), (c), (d), and (e) to allow continuation of the practices described in Section II, Area No. 1, of the report.

19. IMPACTS OF VARIANCE APPROVAL OR DISAPPROVAL:

a. Environmental Impact: No adverse effects have resulted from vectors, dust or odors and no adverse effects have resulted to surface water or ground water; therefore, approval to continue current leveling and covering practices should not cause any adverse effects to the environment. See Sections II and II and Table I in the Appendix of the report for site information and description of waste materials.

b. Economic Impact:
Disapproval would reduce life of the site twenty-five percent, would require a full time operator ($26,000/year) and additional equipment amounting to $90,000.

20. CERTIFICATION:
I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

1978 May 10 — Date
P. F. Woodward — Signature and Title: P. F. Woodward, Environmental Control Superintendent

47-19-5 (6/77) APPLICANT COPY

47-19-2 (5/77)
Formerly SW-7

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

APPLICATION FOR APPROVAL TO CONSTRUCT A SOLID WASTE MANAGEMENT FACILITY

SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

FOR STATE USE ONLY	
PROJECT NO.	DATE RECEIVED
DEPARTMENT ACTION ☐ Approved ☐ Disapproved	DATE

1. OWNER'S NAME	2. ADDRESS (Street, City, State, Zip Code)	3. Telephone No.
Aluminum Company of America	Park Avenue East, Massena, N.Y. 13662	315-764-4011
4. OPERATOR'S NAME	**5. ADDRESS (Street, City, State, Zip Code)**	**6. Telephone No.**
H. P. Beelo	Same	315-764-4191
7a. ENGINEER'S NAME	**8. ADDRESS (Street, City, State, Zip Code)**	**9. Telephone No.**
P. F. Brown	Same	315-764-4284

7b. ENGINEER'S N.Y.S. LICENSE NO.
37260

10. TYPE OF PROJECT FACILITIES:
☐ Composting ☐ Transfer ☐ Shredding ☐ Baling ☐ Sanitary Landfill ☐ Incineration
☐ Pyrolysis ☐ Resource Recovery-Energy ☐ Resource Recovery-Materials ☒ Other Landfill & Lagoo

11. Briefly describe the project including the basic process and major components: Disposal of waste materials associated with the production of primary aluminum and aluminum products by landfill. Majo components: paper, wood and bricks. Oil is disposed of in lagoons. Potlining is stored outdoors.

12. Describe location of facility. (Attach a USGS Topographic Map showing the exact location of the facility)
See attached report, "Alcoa Massena Operations: Description of Solid Waste Disposal Facility"

13. County in which facility is located:
St. Lawrence

14. Environmental Conservation Region in which facility is located:
6

15.

Municipalities Served by Facility	County	No. of Municipalities
None	-	-

16. Describe briefly how the proposed facility relates to the Comprehensive Solid Waste Management Plan for the Municipality. Explain any deviation from that Plan.
NA

17. If the facility is other than a sanitary landfill, describe the residues in terms of quantities and types. Also indicate the methods and locations of residue disposal or, if recyclable, indicate markets: No residue has been removed from either the soluble oil lagoon in operation since 1959, or from the lub oil lagoon in operation since 1969. Do not anticipate need for dredging in foreseeable future.

18. If the facility is a sanitary landfill, provide the following information:
a. Total useable area – 20 Acres
b. Distance to nearest surface water – See Map Feet
c. Depth to nearest ground water – Unknown Feet
d. Depth to nearest rock – Unknown Feet
e. Distance to nearest airport – two miles
f. Expected life of site – 13 years
g. Is site on a flood plain? ☐ Yes _____ Year Flood ☒ No
h. Predominant type of soil on site: clay (Use Unified Soil Classification System)

19. Anticipated construction starting and completion dates

From	To
Before 8-10-77	-

20. Estimated Population Served

Current	Design
2500	-

21. Estimated Cost

Initial	Annual
Not available	-

22. Estimated Daily Tonnages of Solid Waste

Current	Design
100	-

23. Operating Hours per Day
Eight

24. Are attached plans and specifications in substantial conformance with "Content Guidelines for Plans and Specifications"? ☒ Yes ☐ No

25. CERTIFICATION:
I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

1978 May 10 — Date

P F Woodward — Signature and Title

P. F. Woodward, Environmental Control Superintendent

APPLICANT COPY

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

APPLICATION FOR APPROVAL TO OPERATE A SOLID WASTE MANAGEMENT FACILITY

SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

FOR STATE USE ONLY	
PROJECT NO.	DATE RECEIVED
DEPARTMENT ACTION ☐ Approved ☐ Disapproved	DATE

1. OWNER'S NAME	2. ADDRESS (Street, City, State, Zip Code)	3. Telephone No.
Aluminum Company of America	Park Avenue East, Massena, N.Y.13662	315-764-4011
4. OPERATOR'S NAME	**5. ADDRESS (Street, City, State, Zip Code)**	**6. Telephone No.**
P. P. Poole	Park Avenue East, Massena, N.Y.13662	315-764-4191
7. ENGINEER'S NAME	**8. ADDRESS (Street, City, State, Zip Code)**	**9. Telephone No.**
R. K. Brown	Park Avenue East, Massena, N.Y.13662	315-764-4284
10. ON-SITE SUPERVISOR	**11. ADDRESS (Street, City, State, Zip Code)**	**12. Telephone No.**
N. J. Bonner	Park Avenue East, Massena, N.Y.13662	315-764-4121

13. HAS THE INDIVIDUAL NAMED IN ITEM 10 ATTENDED A DEPARTMENT SPONSORED OR APPROVED TRAINING COURSE?
☐ Yes Date Course Title Location ☒ No

14. PROJECT/FACILITY NAME	15. COUNTY IN WHICH FACILITY IS LOCATED	16. ENVIRONMENTAL CONSERVATION REGION
Alcoa Massena Solid Waste Disposal	St. Lawrence	6

17. TYPE OF PROJECT FACILITIES: ☐ Composting ☐ Transfer ☐ Shredding ☐ Baling ☐ Sanitary Landfill ☐ Incineration ☐ Pyrolysis ☐ Resource Recovery-Energy ☐ Resource Recovery-Materials ☒ Other Landfill and Lagoons

18. HAS THIS DEPARTMENT EVER APPROVED PLANS AND SPECIFICATIONS AND/OR ENGINEERING REPORTS FOR THIS FACILITY? ☐ Yes Date _____ ☐ No

19. LIST WASTES NOT ACCEPTED

1. Equipment with di-electric solutions containing PCB's

20. BRIEFLY DESCRIBE OPERATION

See attached report, "Alcoa Massena Operations: Description of Solid Waste Disposal Facility."

* Area No. 1 - Main Landfill:

Initial Acreage - 20
Current Acreage - 8

21. IF FACILITY IS A SANITARY LANDFILL, PROVIDE THE FOLLOWING INFORMATION:

a. Total useable area: (Acres) Initially * Currently *

b. Distance to nearest offsite, downgradient, water supply well 6000 Feet

c. No. of groundwater monitoring wells Upgradient 0 Downgradient 0

22. INDICATE WHICH ATTACHMENTS, IF ANY, ARE INCLUDED WITH THIS APPLICATION:

☒ Form 47-19-2 or SW-7 ☐ Operations Plan & Report ☐ USGS Topographic Map ☐ Record Forms ☒ Other Report with maps
☐ Construction Certificate ☐ Boring Logs ☐ Water Sample Analysis ☐ None

23. CERTIFICATION:

I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

1978 May 9 — Date

P. F. Woodward, Environmental Control Superintendent — Signature and Title

47-19-4 (6/77)
Formerly SW-22

APPLICANT COPY

1070

1 R B [illegible]
2 [illegible] Clark
3 P. F. Woodward-3c

ALUMINUM COMPANY OF AMERICA

P. O. BOX 150 · MASSENA, NEW YORK 13662

MASSENA OPERATIONS

ALCOA

1978 February 22

Mr. R. Guiendon
New York State Department
of Envinronmental Conservation
317 Washington Street
Watertown, New York 13601

Dear Mr. Guiendon:

This is to confirm our telephone conversation of February 21 about solid waste disposal permits.

I am preparing an application for Alcoa's solid waste disposal facilities, but it will not be completed before the end of February. I understand from your comments this will not be a problem because the Department will be reviewing applications from municipalities before reviewing those from industries that have disposal facilities on plant property. However, there will be no unnecessary delay in completing our application.

Yours truly,

P. F. Woodward,
Environmental Control Superintendent

PFW:h

39C

R. K. BROWN

MASSENA OPERATIONS

MR. J. C. POST
ENVIRONMENTAL ENGINEERING DIV.
PITTSBURGH OFFICE

August 20, 1968

RE: SOLID WASTE DISPOSAL - MASSENA OPERATIONS

Results of our preliminary solid waste survey are attached, showing a total of approximately 21,000#/day of combustible refuse to be disposed of.

Comparing this amount with the information you forwarded on the Open Pit Incinerator by Thermal Research & Engineering Corporation, it would appear that the 3,750#/hr. model, both in capacity and pit size, would meet our present requirements and provide reasonable excess capacity. We might want to investigate the 50 HP blower unit due to the amounts of oil sludge, wood block, etc., to be handled.

R. K. BROWN

RKB:kdm
Attachment
Copy to Mark Sittig 4-27-72

040A

PRELIMINARY SOLID WASTE SURVEY - MASSENA OPERATIONS

Combustible materials presently hauled to dump area:

Office & Lunch Room Refuse - Paper	2,500#/day	12%
Dempster-Dumpster boxes - paper, wood, misc. refuse	15,000#/day	71%
Scrap lumber - Shop & Construction	400#/day	2
Wood Reels - Stl. Wire Reels & Scrap Process Reels (4,500 reels per year)	1,400#/day	7
Oil Sludge	1,200#/day	6
Tires, wood floor block, oil filters, polyethylene scrap, and misc. intermittent refuse	500#/day	2
	21,000#/day	100

(Office & Lunch Room and Dempster-Dumpster box survey sheets showing source and estimated weight attached)

8/16/68

8/6/68

Dempster-Dumpster Refuse Collection

Bldg. No.	No. Boxes	Boxes Pumped/Wk.	Material	Cu. Yds. Per Week	Av. Cu.Yds. Per Day
64	1	1	Paper, Wood, Stl. Strapping, Etc.	3	.6
65	1	3	"	9	1.8
83	1	1	"	3	.6
I.G.W.	2	10	"	30	6.0
Reel Shop	2	5	"	15	3.0
79C	4	20	"	60	12.0
14	2	5	"	15	3.0
53	3	6	"	18	3.6
79	11	30	"	90	18.0
67	1	1	"	3	.6
68	2	2	"	6	1.2
78	1	5	"	15	3.0
70	2	1	"	3	.6
Carp. Shop	2	2	"	6	1.2
1A	3	15	"	45	9.0
66	2	4	"	12	2.4
3A	3	1	"	3	.6
71	1	5	"	15	3.0
75	1	1	"	3	.6
121	2	2	"	6	1.2
122	3	7	"	21	4.2

Bldg. No.	No. Boxes	Boxes Pumped/Wk.	Material	Cu. Yds. Per Week	Av. Cu.Yds. Per Day
124	4	20	Paper, Wood, Stl. Strapping, etc.	30	6.0
131	5	5	"	15	3.0
120	1	2	"	6	1.2
140	12	20	"	60	12.0
1B	1	2	"	6	1.2
350	1	1	Dust (pitch)		Dump-Landfill
344	2	4	Shop Refuse	3	.6
332	5	15	" (Butt cleaner)		Dump-Landfill
332A	2	5	" (pitch)		"
304	5	5	" (sweepings)		"
318	6	15	Wood, dust, metal	45	" 9.0
366	1	5	Wood, etc.	15	3.0
225	2	2	Wood, metal	6	1.2
226	1	1	Wood, metal	3	.6
216	1	1	Dust		Dump-Landfill
221	25	60	Skim Cooler Dust,etc.		"
336	1	5	Wood, etc.	15	3.0
					117.0

Boxes - 3 Cu.Yd. average

Av. W't. Rubbish - 10#/ft.^{3} - 270#/yd.^{3}

Assuming no compaction & boxes

Averaging 1/2 of capacity - 15,000#/day

8/2/68

OFFICE & LUNCH ROOM REFUSE COLLECTION

Stop No.	Location	Average Quantity	Volume Cu. Ft.	Max. Wt.
1	Storeroom	3 Cans	10.5	75
2	Main Office	14 Bags, 1 can	52.5	235
3	79	3 Bags	10.5	45
4	Oil House	1 Bag	3.5	15
5	#1 Clock House	2 Cans	7.0	50
6	221 Offices & Cribs	10 Cans	35.0	250
7	Center Passage - Potrooms	11 Cans	38.5	275
8	318, 322 South	3 Cans	10.5	75
9	Carbon Plant	4 Cans	14.0	100
10	332 North	2 Cans	7.0	50
11	Machine Shop	6 Cans	21.0	150
12	339 Clock House	1 Can	3.5	25
13	#5 Clock House	2 Cans	7.0	50
14	Rectifier Station	2 Cans	7.0	50
15	75	7 Cans	24.5	175
16	E.C. Lab (2 times/wk.)	3 Cans	4.0	30
17	Blooming Mill	20 Cans	70.0	500
18	225 & Motor Room (3 times/wk.)	8 Cans	16.5	120
19	318 North	1 Can	3.5	25
20	Carbon Press	1 Can	3.5	25
21	Pitch Bldg. (3 times/wk.)	1 Can	2.0	15
22	Compressor Room	3 Cans	10.5	75
23	Smelting Garage	2 Cans	7.0	50

Stop No.	Location	Average Quantity	Volume Cu. Ft.	Max. Wt.
24	Linemen's Bldg.	2 Cans	7.0	50#
25	Ore Shed (2 times/wk.)	1 Can	1.5	10
26	221 North (2 times/wk.)	2 Cans	3.0	20
			381.5	2,540#

Can - 26 Gals. - 3.5 ft.^{3} - 25#
Bag - 3.5 ft.^{3} - 15#

381.5 2540
16,000

117 yd^3
58
60 yd
27
1620
400
2000

Ron Johnson Branch

Attachment C

#4

SALES AND EXPENSE - 1971
SCRAP METALS AND RECLAMATION

	Average Unit Price	Total Dollars
Scrap Sales		
Unprepared Heavy Iron	17.00 G.T.	~~50,012.50~~ 15634.09
Unprepared Light Iron	10.00 G.T.	1,090.27
Collector Bars	17.00 G.T.	10,643.03
Pot Brackets	12.00 G.T.	861.17
Studs	20.00 G.T.	15,645.98
Galvanized Wire	3.50 G.T.	240.03
Galvanized Cable	3.50 G.T.	182.87
Aluminum Conduit	.08 Lb.	56.01
Mixed Brass	.25 Lb.	617.63
Fe. Cu. Dross	.07 Lb.	1,032.15
Mixed Copper	.25 Lb.	500.00
Misc. Aluminum Shaving	.075 Lb.	625.80
Insulated Copper	.23 Lb.	1,794.00
Copper Nuts & Core Boxes	23.00 G.T.	87.23
Scrap Steel Balls	20.00 G.T.	55.90
Machine Turnings	4.00 G.T.	154.47
Steel Turnings	4.00 G.T.	61.78
Scrap R. R. Rails	30.00 N.T.	172.50
Steel Cable	3.50 G.T.	.78
Stainless Steel Tank	25.00 N.T.	549.75
Total Scrap Sales		$50,012.50
Reclamation Sales		
Waste Paper	40.00 N.T.	192.00
Drums	1.00 Ea.	263.00
L A Batteries	1.50 Ea.	580.50
Total Reclamation Sales		$ 1,035.50
Total Sales		$51,048.00

Distribution:

Fab.	15,891.10
Smelt.	35,156.90
	$51,048.00

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1. SCOPE

This specification covers the following Alcoa ML fluids:

ML 550 - Uninhibited
ML 560 - Inhibited

2. REQUIREMENTS

This group of petroleum oils, including both the uninhibited and oxidation-inhibited type, shall be suitable for use as electrical insulating fluids in transformers and/or circuit breakers. The uninhibited oils are for use in transformers equipped with activated-alumina type of filters (thermo-siphons), and the oxidation-inhibited oils are for use in transformers not so equipped.

3. PHYSICAL AND CHEMICAL PROPERTIES

The fluids supplied against each category shall conform to the requirements itemized in Table 1.

4. QUALITY CONTROL

4.1 When a supplier initially offers a product to Alcoa against any of the ML numbers listed in this specification, he shall furnish complete data on the properties of the product as related to the requirements itemized in Table 1. He shall identify the type and per cent of oxidation inhibitor used, and shall furnish any other information pertinent to the product's evaluation or control.

4.2 When subsequent changes in the supplier's marketing or manufacturing procedures cause the information in Alcoa's files to become obsolete, it will be the supplier's responsibility to advise Alcoa of the changes needed to bring the records up to date. Such revisions are to be sent to Alcoa's Purchasing Department, Pittsburgh, Pennsylvania.

4.3 If the supplier is unable to duplicate the Alcoa Oxidation Test Procedure (Alcoa LD 400) stipulated, then Alcoa will make this determination on the initial sample at no cost to the supplier. For such purposes, a one gallon sample should be furnished to Alcoa Research Laboratories, Freeport Road, New Kensington, Pennsylvania

4.4 All tests, unless otherwise stated, shall be run in accordance with current ASTM methods.

4.5 Alcoa reserves the right to sample and test at any time any shipment of oil supplied against one of the ML numbers included in this specification. Alcoa's failure to sample and test an incoming shipment does not, however, relieve the supplier of his responsibility to have shipped a product meeting the requirements of the specification.

TABLE 1

Property	Alcoa ML No. Nomenclature ML-550	ML-560	Test Method
Viscosity @ 100 F, cSt	9-11	9-11	ASTM D445
Viscosity @ 100 F, SUS (nominal)	60	60	ASTM D88
Viscosity Index, Min	0	0	ASTM D2270
Alcoa Oxidation Stability @ 95 C, Hrs Min	20	-	Alcoa LD-400*
Alcoa Oxidation Stability @ 115 C, Hrs Min	-	30	Alcoa LD-400*
Flash Point, °F Min	295	295	ASTM D92
Pour Point, °F Max	-40	-40	ASTM D97
Neutralization No., mgs. KOH/g Max	.05	.05	ASTM D664
Sulphur	Pass	Pass	ASTM D1275
Color, ASTM, Max	2	2	ASTM D1500
Water, parts per million, Max	35	35	ASTM D1533
Sediment	Nil	Nil	ASTM D96
Dielectric Strength, KV Min	30	30	ASTM D877
Power Factor, Max	.005	-	ASTM D924

*Reproduced as Alcoa Engineering Standard 35.3.400.

042

SPECIFICATION ESTABLISHED 12-21-51

SUPERSEDES FEBRUARY 15, 1971

5. PENALTIES

In the event that an inspection by Alcoa's Central Control Laboratory of a representative sample taken from one container of a shipment shows that the material does not meet the Alcoa specification against which it was sold, the entire shipment or any part thereof shall be subject to return to the supplier for full credit of the cost of the material returned and all transportation charges thereon.

6. PACKAGING AND MARKING

6.1 All containers shall be clean, closed and tamper-proof sealed. They shall be clearly marked with Alcoa's ML number and purchase order number applicable. Such marking shall be in letters at least 1 inch high and with ink or paint that is insoluble in water and insoluble in the container's contents.

6.2 The supplier may show any additional markings on the container that he feels to be appropriate, including the company name, the brand name of the product, weights, batch numbers, shipping and handling instructions, etc.

6.3 The supplier shall show the appropriate Alcoa ML number on all correspondence, shipping papers or invoices pertaining to materials offered against or purchased under this specification.

Jan. 22, 1963

FROM: R. A. HALL TO: MR. F. L. LETTERMAN

RE: REPORT OF SOLUBLE OIL DISPOSAL - 1962

During the year 1962, the program of destroying soluble oil by spraying into the boilers was continued. The program was re-initiated for the year in April and was kept active the remaining nine months. The total amount of oil consumed was 1,679,250 gallons. All the disposal was done at #1 Boiler House, the amount per day being determined by the number of boilers in operation. The smallest monthly total destroyed was in August with 110,500 gallons; the largest was November with 273,000 gallons.

In addition to this type of disposal, 3 lines of sprays with 12 nozzles each were kept in operation thruout the summer months. However, an exceptionally wet summer season kept the pond high so that the end of the evaporation season found the pond level higher than at the corresponding time the previous year.

The cost of operating the disposal system for the 9-month period is as follows. Burden is included in the labor figures.

Oilers	- $ 850.91
Transportation	- 1,852.50
157.2 Tons Coal	- 1,570.20
	$4,273.61
Cost per gallon	- $.0025

This figure is somewhat higher than that obtained on a one month trial run a year ago when cost was calculated to be $.00185 per gallon. This cost, however, was based on the month of September and it is presumed costs are higher during the inclement weather months.

During the year 86,451 gallons of soluble oil were purchased by the mills and used up in solutions varying from 3% to 15%. No particular dumping schedule is followed, the practice being to use the solution until its breakdown or contamination prevents further use. At the time each batch is released to the pond,

a further dilution of the oil content is fostened by the wash waters generated by pit cleaning. Any additional dilution comes from precipitation. At the last sampling of the pond, the oil content was running from 1800 to 2500 PPM.

R. A. HALL

RAH:CM

Cc to Messrs. E.T.O'Neill
J.H.Lavine

E. T. O'Neill

INTERNAL CORRESPONDENCE November 27, 1962

FROM F. J. McGRATH
ENGINEERING & MAINTENANCE DIV.
DAVENPORT WORKS

TO MR. F. L. LETTERMAN
MASSENA WORKS

6b

RE: DISPOSAL OF INDUSTRIAL WASTE

Our new industrial waste treatment process consists of the following procedures:

1. Raising the temperature of the influent to 180° F.
2. Adding sulfuric acid to the heated influent to reduce the Ph to 2.0.
3. Allowing the oil to separate for skimming off to an oil storage tank.
4. Adding caustic soda (NaOH) to the effluent to raise the Ph to 7.4 before it is discharged to the river.
5. Burn reclaimed oil in the Remelt furnaces.

The new process was put into operation on October 11, 1962. Because of various "start-up" problems, we cannot give you accurate figures on our processing costs but the following costs are fairly close.

a. Dates - October 11 to November 7.

b. Approximate waste treated - 700,000 gallons

c. Approximate oil reclaimed - 21,000 gallons

d. Costs

1.	Acid -1800 gal. @ $.21/gallon =	$ 380.00
2.	50% Caustic Soda 3300 gal. @ $.36/gallon =	1,180.00
3.	Steam - 950,000 lbs. @ $.467/M# =	430.00
	Total Cost	$ 1,990.00
4.	Less value of 21,000 gal. oil @ $.07/gal.	-1,470.00
	Net Cost	$ 520.00
5.	Net cost per gallon influent treated - 700,000/520 =	$.00074/gal.

044

SF 4563 500M-11-61
PRINTED IN U.S.A.

Between October 11 and November 7, we had processed the industrial waste received from throughout the plant. The oil "cracked-out" readily with less than 1% water in the oil and was burned very successfully in the Remelt furnaces. On November 7, an oil change was made for one of our mills which discharged 400,000 gallons of soluble oil (Prosol) and wash water to the waste treatment plant. This oil did not "crack-out" clean and formed an invert emulsion of 75% water and 25% oil. We believe the Prosol caused the problem and found it necessary to go back to lime and alum treatment for several days.

So far we have not arrived at a successful acid/caustic soda treatment for this waste but are optimistic that a method will be found.

George Myers

G. J. MYERS

GJM/vs

cc: J. C. Glascock, Pittsburgh
W. B. McMorris, Pittsburgh

S. F. 1618 100M-6-55
Printed in U. S. A.

6C

Soluble Oil Destruction Season of 1962

Tanker capacity - 6500 gals.

J.O. #	Month	Loads	Gallons	Boilers
2641075	April	31	201,500	1- 2-
2643033	May	25½ 19 Soluble oil 5 3 in 1 skim fuel	165775	
2644685	June	17	17/100	
2646241	July	20	130,000	
2647651	August	17	110500	
2649227	September	21	136500	
2650913	October	35	227500	
2652129	November	42	273000	
2653388	December	39½	256750	
	Destroyed in 9 mos. 1962		1,679,250 gals	

RATE OF EVAPORATION FROM OIL LAGOON

GAGE SET APRIL 24/59

OIL LEVEL	1.50	4-24-59	RAINFALL 0.36"
	1.58	4-28-59	
	1.64	4-29-59	0.21"
		4-30-59	
	1.60	4-30-59	
	1.60	5-1-59	
	1.60	5-5-59	
	1.57	5-8-59	
	1.56	5-11-59	
	1.58	5-12-59	
	1.54	5-15-59	
	1.57	5-21-59	
	1.57	5-22-59	
	1.56	-5-29-59	
	1.58	-6-1-59	
	1.65	-7-1-59	
	1.73	-7-20-59	OIL ANALYSIS 3700PPM
	2.19	9-9-59	
	2.19	9-18-59	
	2.21	9-30-59	
	2.70	10-27-59	
	2.50	11-2-59	

The waste soluble oils from the fabricating plant of Nuseum Works are stored in an artificial lagoon constructed ~~about~~ three years ago for this purpose. The capacity of the pond is about 3 3/4 millions of gallons, allowing little or no freeboard. Consequently Nuseum has had to develop some means of disposal to keep the pond level ~~down~~ down to safe limits.

The initial attempt at disposal was a trial installation of ~~a~~ a water conditioner plant as furnished by and ~~designed by~~ typed from the Green Water Conditioning Co., utilizing water pressure and alum solution as the breaking agents for separating the oil from the water. The plant was operated for a short time in the fall of 1960 during which period 240,000 gallons of solution was treated, the water resulting from such treatment being clean enough to release to the Grosse River. However the waste product of oil & alum in the form of a floc remained & was pumped back into the lagoon. The per gallon cost of this operation was .033. This cost of course included some extra charges which would not be encountered in another seasons operation, namely electrical installation, valves piping, etc. A secondary lagoon for final settlement of the effluent was also included in this cost. Our estimate of the cost of treatment of 2 000 000 gallons was .006¢/gal. which still however did not account for the cost of final disposal of the oil floc or sludge, a problem for which no ready solution has been found

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there. It was felt that any treatment meeting our requirements for this final disposal would at the least double the cost of treatment as in the neighborhood of .012 ¢/gallon.

Based on the results of a short trial in 1959, when the spring of 1961 came it was decided to try disposing of the soluble air by pumping it over the fire bed of Messena Stoker fired coal burning boilers. The atomizing nozzles were installed two per boiler and operated at a 70 psi pressure at the rate of approximately 1 gallon per minute each. The air was withdrawn from the lagoon at the opposite end from which it is dumped so that the suspended solids & foreign materials drop out before transport back to the boilers. The cost of the installation on two boilers was $1800. Excluding this factor, the cost per gallon of disposal has been determined to be .00185. This method has the further advantage over the chemical treatment in that no residue in final product remains to plague us.

The evaporation rate of the lagoon has been calculated & found to be a highly significant factor in the disposal picture. A September 1961 survey revealed a loss due to surface evaporation of 280,000 gallons for the month with an additional 540,000 gallons being evaporated due to the help of a 12 nozzle spray system installed across the pond. Cost of operation of these sprays is about 50¢/day.

1850 for installation

110000 @ 193.07 for pumping.

$$\begin{array}{r} .001754 \\ 110000 \overline{)193.070} \\ 110000 \\ \hline 83070 \\ 80000 \\ \hline 30700 \end{array}$$

.00103 per gal.
.00184
.00287

.00287/gal.

run rate .022 per hour.

The waste soluble oil storage lagoon has now been in use at Massena Works for three years. Installed originally as an emergency measure to stop the dumping of waste oils into the Grasse River, it had a capacity of between $3\frac{3}{4}$ & 4 million gallons, without freeboard. By the end of the second season it was filled nearly to capacity and near the end of this period, some experimental work was done with a patented water conditioner plant, manufactured by the Graver Co. and leased to us for $1.00/week, utilizing alum as a flocing agent in an attempt to separate the oil from the water. Partially successful in that we were able to treat 36000 gals. daily to draw down the oil storage correspondingly, from the standpoint of economy, it was too expensive, requiring the services of one operator per shift, used a considerable amount of alum and left us with the problem of the disposal of the oil sludge, a product which we were unable to dispose of easily or cheaply. By the time the fall freezeup commenced the pond was drawn down enough (240000 gals) so that we could enter the winter with enough freeboard to contain our oils until spring.

With spring, in an attempt to dispose of the oil more economically, it was decided to try introducing the soluble oil as stored in the pond into the steam boilers as a spray over the fire-bed. The surplus pump which had been used in 1960 to feed the water conditioner unit was reinstalled at the lagoon to load the 5500 gallon tanker currently used for transporting waste oils to the lagoon The (over)

oil solution is trucked to a 20,000 gal underground storage tank near #1 Boiler House for day storage. From here it is pumped to the boilers by a centrifugal pump, Ingersoll-Rand, #1RVNL3, rated capacity 20 gpm @ 180' TDH, 3HP motor, and introduced to the boilers through atomizing nozzles, 2 per boiler. The nozzles in use are Spraying Systems Model #¼ TT555C10, without ~~strainers~~ strainers, rated capacity 1 g.p.m. at 40 psi. Our pressure is 70 psi at the nozzle which appears to give excellent atomization. As for Boilers #4 and #5 have been piped for the installation; during the summer months, usually only one boiler is on the line. The boilermen look after the minor tasks entailed in feeding the oil. After 2½ months of operation, the boilers have suffered no apparent ill effects from the operation. Cost of extra coal charged because of this disposal has been as follows:

July 1961 - 5.7 Tons of coal used & disposed of 60,480 gals.
August 1961 - 12.45 Tons of coal " " " " 132,300 gals
September 1961 - 11.95 Tons of coal " " " " 127,000 gals.

In a further attempt to speed up the disposal of the caustic oil, a line of sprays was installed across the lagoon, starting with 6, then 9 and now 12 - ¾" garden nozzle type sprays, adjusted to spray vertically upward with a fine mist pattern. These sprays are

operated around the clock, by the same pump which fills the tanker, at a pressure of 52 #/□" at the pump.

It was decided to make a field study of the lagoon activity during the month of September, 1961, to try & determine what effect the weather, the sprays, and the drawdown activity from the boiler house have on the level of the lagoon. The first step was to accurately cross-section the lagoon, determine the contained gallonage & establish gauge boards for direct reading such quantities. A rain gage was installed near the west end as the official plant rain gage was too far distant to afford significant readings. An evaporation pan was established near the rain gage to try and determine what rate of evaporation could be expected from the surface only, discounting spray activity. This pan was 27" × 48" × 11" deep, filled to an initial depth of 8". All readings were taken at 8:15 AM daily except no readings were taken on Saturdays and Sundays, so that Monday AM's reading are the accumulation of ~~events~~ & changes since the previous Friday A.M. A record was also kept ~~for~~ of input to and drawoff from the lagoon. The results of the survey have been charted and the physical quantities have been ~~accumulated~~ assembled on a statistical form for study, and are attached.

Lagoon History - Sept. 1 & Sept 30, 1961.

Gallons in lagoon at start of survey, Sept. 1. -	3,268,000
Gallons rainfall added	169000
Gallons soluble oil solution added	195000 +
	3,632,000
Gallons removed by tanker to Niles	110000
Gallons theoretically remaining ignoring evaporation	3,522000
Gallons actually remaining in lagoon. (by survey)	3,180,000
Gallons presumed lost by evaporation	342,000

Taking the 24 year average (2) for monthly (September) evaporation in inches as accumulated for a nearby area in N.Y. State and applying these figures to our lagoon we could anticipate an evaporation of 280000 gallons during the month.

A study of the evaporation pan indicates that the total evaporation from the pan interpolated to the lagoon would account for a loss of 37,000 gallons. However evaporation from pans being greater than from adjacent water bodies, an arbitrary coefficient of .80 applied to this figure would reduce the loss from evaporation to 296000 gallons. (3)

The natural tendency at this point is to plunge and come up with a claimed figure for speeded up evaporation by using the sprays. However our rather crude measuring devices,

lack of 7 day readings, and an untested pan coefficient - this last even when checked by highly trained personell, a controversial figure at best, point to the use of caution when using these figures. However with a plea for tolerance, it would seem that by averaging the anticipated evaporation figure of 280 000 gallons and the coefficient applied pan evaporation figure of 296 000 gallons, we could subtract this average of 288000 from the actual measured evaporation of 342000 and cautiously claim a speedup for the spray system of 54000 gallons monthly.

It would seem from the results of this experience that a continuance of this years operation of the air lagoon would take care of the oil problem indefinitely. By starting our trucking of oil to the boilers in April or as soon as practical after the ice breakup on the lagoon and by continuing as late as possible into the fall, and by operating the sprays again through the high evaporation months, we can keep the lagoon down to a safe level. Baring of the ice in the winter by removing all snow should also increase the evaporative rate during the cold months and would also cut down the pickup from melting snow. In case increased oil consumption & the consequent increase in lagoon storage, we could consider augmenting the disposal capacity with a similar installation in #2 Boiler House.

Bibliography -

① Report on 1960 operations - Soluble Oil Disposal - Marsena Fabricating. 11-11-60

③ Applied Hydrology, by Linsley, Kohler & Paulhus Chapter entitled 'Evaporation & Transpiration'.

② Civil Engineering Handbook, by Urquhart.

No of [illegible] avail & not consumed = [illegible]